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14. ABSTRACT The purpose of this business case analysis was to provide a detailed breakdown on the fiscal and qualitative impacts of a proposal to establish inpatient behavioral health services at Evans Army Community Hospital (EACH), Fort Carson, CO. Over the period of FY03-08, the utilization of these services by active duty service members (ADSMs) increased by 698%, while associated costs increased 1233%. These statistics prompted a proposal to determine whether these services could be offered at EACH in a less costly manner than purchase care. After analysis of the fiscal costs and benefits, it was determined that implementing these services at EACH would result in a financial loss to both EACH and the Federal government. However, there are numerous qualitative benefits of the project that make it worth considering such as an increased access to care, increased internal expertise, a complete longitudinal health record for the patient, improved referral management, decreased travel distance for family members and government staff, and decreased resource dependency on the purchase care network.					
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Graduate Management Project:

Inpatient Behavioral Health Recapture

A Business Case Analysis at Evans Army Community Hospital

Fort Carson, Colorado

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Disclaimer

The views and recommendations expressed in this business case analysis are strictly those of the author, and do not reflect the official policy or position of the Army-Baylor Program, Great Plains Regional Medical Command (GPRMC) Department of the Army, Department of Defense (DOD), or the U.S. Government.

This business case analysis was developed in an academic environment, where the author had limited access to external resources. Although a detailed and thorough analysis was conducted utilizing the time and resources allotted for this project, this business case should not be used as the sole consideration for decision-making purposes. Caution should be exercised when utilizing this information, and an external verification process should be used to ensure the accuracy of the data.

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Executive Summary

The purpose of this business case analysis (BCA) is to provide a detailed breakdown of the fiscal and qualitative impacts of a proposal to establish inpatient behavioral health services at Evans Army Community Hospital (EACH) located at Fort Carson, CO. These services are currently being performed solely through purchased care. The proposal does not include substance abuse detoxification services.

Over the last five years (FY03 to FY08) inpatient behavioral health service utilization has increased 698% in the Colorado Springs, CO area among Army active duty service members, while costs have gone up 1233%. With such a large increase in workload and associated costs, it seems only reasonable to inquire as to whether EACH can now provide those services in a less costly manner.

After analysis of the financial costs and benefits of the proposed project, implementation would result in a yearly net loss of \$1,210,880 to the Federal government not including the original cost of \$4,755,086 to build and start-up the unit.

There are several non-financial benefits which weren't considered directly in the above analysis that should be considered such as ensuring access to care, minimize travel distance for government personnel and family members, increasing internal expertise, improving referral management and ensuring an accurate longitudinal health record, and decreasing resource dependency on the purchase care network. These particular benefits are difficult to quantify in financial terms, but should be looked at when making a final decision on whether to implement.

Based solely upon the direct financial impact to the government, building an inpatient behavioral health unit at EACH is not recommended.

Introduction

Subject

This business case analysis examines the likely costs and benefits that flow from a proposed action to establish inpatient behavioral health services at Evans Army Community Hospital (EACH). The proposed action is designed to decrease dependency on purchased care for inpatient behavioral health services, and to improve overall quality of these services provided to active duty beneficiaries.

Purpose

The purpose of this business case analysis is to provide a detailed analysis of the fiscal and qualitative impacts of a proposal to establish a ten-bed inpatient behavioral health unit at EACH.

Business Objectives

The proposed action seeks to satisfy the following business objectives:

- Reduce the overall cost of providing inpatient behavioral health services
- Improve access to care for inpatient behavioral health services in the Colorado Springs catchment area
- Portray an image that EACH is proactively ensuring patient needs are handled promptly and adequately
- Provide better management of behavioral health services for improved continuity of care
- Build and maintain internal skill sets and expertise within EACH for inpatient behavioral health services

Background

Overview

Evans Army Community Hospital (EACH), named after Medal of Honor recipient Specialist Four Donald W. Evans Jr., lies at the base of the Rocky Mountains on the Fort Carson Army post in Colorado Springs, CO. It currently services over 50,000 enrolled beneficiaries, and also provides care to surrounding populations including Peterson Air Force Base and The Air Force Academy when necessary. EACH is a 78-bed community-based medical treatment facility (MTF) that delivers health care, preventive medicine, and Soldier training and education products and services. Health services available to the EACH population include the full range of primary care services including Family Practice, Pediatrics, Internal Medicine, Women's Health, and Emergency Medicine. Surgical care available includes General Surgery, Orthopedics, Otolaryngology, Podiatry, Gastroenterology, Urology, Ophthalmology, Oral and Maxillofacial, and Obstetrics/Gynecology. Inpatient care includes Obstetrics, Intensive Care, and Post Anesthesia Care/Same Day Surgery.

EACH Mission: Delivering on the promise of quality, safe, effective, and timely Warrior centered care.

EACH Vision: Become a center for best practices for the Army Medical Department (AMEDD); integrate healthcare in the Colorado Springs community into a seamless system; exceed all expectations for meeting the healthcare needs of an expanding beneficiary population; and become synonymous with quality care.

The primary purpose of EACH is to support the many readiness requirements of Fort Carson Soldiers and to provide local command and control of cost-effective,

multidisciplinary, customer-focused, integrated, quality health service systems in the context of the Military Health System (MHS) TRICARE Program.

Historical Information

Currently no consolidated and comprehensive behavioral health plan exists for the Army. The Army, Army Medical Department (AMEDD), Regional Medical Commands (RMCs), MTFs, and Garrisons each may have separate policies governing the priorities and implementation plans for behavioral health services across the Army. Due to the multiple policy-making sources and the stove-piping which occurs within the different behavioral health sections (psychiatry, psychology, social work, substance abuse, traumatic brain injury (TBI), post traumatic stress disorder (PTSD), Pre/Post deployment assessments, provider resiliency testing (PRT), automated neurological assessment measures (ANAM), Family Advocacy Program (FAP), Battlemind, suicide prevention, etc.) in each organization, the different policies and priorities and associated resourcing can become overlapping and sometimes conflicting. The lack of consolidated efforts continues to create a vacuum of behavioral health care for which an increasing need exists given the frequency of more than six years of deployments. A considerable amount of resources continues to get funneled into the Army for behavioral health, but the overall behavioral health productivity has not increased at the same rate.

During testimony to the House Committee on Veterans' Affairs in December 2008, veterans and their families stated that Soldiers return home to find behavioral health systems that are under-staffed, under-funded, and under-equipped (Concern mounts over rising troop suicides, 2008). As the largest branch of the U.S. armed forces with 1.1 million active duty and reserve Soldiers, the Army is taking the brunt of fighting

in Iraq and Afghanistan. The Army accounts for about 71% of the deployed U.S. military force (Morgan, 2009), and the majority of actual ground combat operations.

After the attacks on the U.S. on September 11, 2001, the President of the United States and Congress declared the Global War on Terrorism (GWOT), significantly changing the operations tempo (OPTEMPO) of the military. In 2001, the Army began deploying Soldiers in support of Operation Enduring Freedom in Afghanistan. The military mission was further expanded in 2003 with the launch of Operation Iraqi Freedom (OIF). Increased deployments and exposure to combat have both impacted the active duty population at Fort Carson and the rest of the Armed Forces. Multiple and lengthy deployments exact a toll on Soldiers and their personal relationships. In 2007, 2,100 Soldier attempted suicide and 115 succeeded. Prior to the war in Iraq, Army suicides were less than one attempt per day. Currently Soldiers across the Army attempt suicide an average of five times each day (Concern mounts over rising troop suicides, 2008), a 500% increase over the pre-war rate. In 2008, suicides in the U.S. Army increased 11 percent from the previous year, eclipsing the civilian U.S. suicide rate. The current rate of suicides is 20.2 per every 100,000 Soldiers, higher than the rate for civilians at 19.5 suicides per 100,000 people with similar age and demographic backgrounds (Morgan, 2009). However, the typical civilian is not exposed to the same stressors and danger that a combat Soldier is, so it's not necessary prudent to compare the two populations. In addition to an increase in suicide rates, Soldiers are also exhibiting more violent behaviors. One of the most recent examples was the U.S. Soldier, Army Sgt. John Russell who is charged in killing five fellow Soldiers at a stress clinic in Iraq (U.S. Soldier charged with murder in Iraq shooting deaths, 2009).

Fort Carson has not been immune to the increase in suicides and violence among Soldiers. In 2007, the Army and Fort Carson were criticized by former combat veterans who said they were being punished, ignored or even discharged as they struggled with post-traumatic stress disorder (PTSD) and other psychological traumas. The Army and Fort Carson pledged to enhance screening to identify Soldiers with PTSD symptoms. In 2008, however, attention returned to Fort Carson as a number of local homicides and other violence tied to combat veterans from a single 4th Infantry Division brigade made national news (Lane, 2009). In early 2008, an Army Specialist was killed by three fellow Soldiers at Fort Carson who had served with him in Iraq (McChesney, 2008). In November 2008, another Fort Carson Soldier was arrested on charges of suspected murder and rape of a 19-year old girl, and rape of a 14-year old girl (Frosch & Alvarez, 2008). Two Fort Carson Soldiers were convicted of killing two people and wounding another Soldier in the Spring of 2008 (McKeown, 2009). Another Fort Carson Soldier was recently arrested in connection with the shooting death of a woman this past May (Associated Press, 2009). Fort Carson has also had several suicides. In 2008 alone there were eight documented suicides (Military bases hope to stem rising suicide rate with training, 2009).

U.S. Army Secretary Pete Geren publicly expressed that reversing the deadly phenomenon of the increasing suicide rates is a "challenge of the highest order for us" (Morgan, 2009). Army Vice Chief of Staff General Peter Chiarelli is leading a new campaign to combat the suicide trend with special instruction that began in February (EXORD 103-09). In conjunction with the National Institute of Mental Health (NIMH), the Army has launched a \$50 million research study on suicides and suicidal behavior

(Morgan, 2009). According to Maj. Gen. David Perkins, a military spokesperson, the Army initiated a probe into behavioral health service operations and how suicide attempts can be avoided in the future. Maj. Gen. Daniel Bolger, the Commander of Multi-National Division-Baghdad, also explained that troops are under a lot of stress and that there is a “stigma” to seeking behavioral health services (U.S. Soldier charged with murder in Iraq shooting deaths, 2009).

Congress is working to help create solutions. Sen. Patty Murray (D-Washington) and Sen. Jim Webb (D-Virginia) introduced legislation to improve the military's suicide-prevention programs and support to military family members. In 2007, Colorado Governor Bill Ritter signed Senate Bill 146, a bill enacted by the Colorado State Legislature to provide behavioral health services for the spouses and dependent children of recently-discharged Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) veterans (Concern mounts over rising troop suicides, 2008).

Several behavioral health facilities provide inpatient behavioral health care in Colorado Springs. Pikes Peak Mental Health provides a broad range of services in behavioral health, substance abuse, vocational skills training and employment, and education. Specifically, for the military, behavioral health services are provided through the First Choice Counseling Center that has served military families in the Pikes Peak region since 1992. Their clinicians are experienced working with a variety of military service-related and deployment/post-deployment issues and their affects on families.

Cedar Springs Behavioral Health offers an inpatient program in a specialized environment for adults who are experiencing an acute crisis. The program is based on the concept that people have an inherent capacity to learn and grow, and is designed to

meet the unique needs of each person and family. Stabilization is achieved through intensive therapy that allows the patient to move to a less restrictive level of care. Medical detoxification for adult substance abuse is an available service on the inpatient unit. Additional services include, diagnostic and evaluation services; individual, family, and group therapy; intensive milieu therapy; occupational and recreational therapy; and case management and discharge planning.

Two other facilities located more than an hour away include the Colorado Mental Health Institute at Pueblo and the Arapahoe/Douglas Mental Health Network. The Colorado Mental Health Institute at Pueblo (CMHIP) provides behavioral health services focused on sustaining hope and promoting recovery. CMHIP is one of Colorado's two JCAHO-accredited state psychiatric hospitals. The hospital is under the direction of the Colorado Department of Human Services. Their behavioral health services include inpatient treatment for people challenged by substance abuse, mental illness or both. Programs include acute residential care for adults, shorter-term evaluation, crisis and emergency intervention. The Arapahoe/Douglas Mental Health Network provides behavioral health services including inpatient treatment for people challenged by substance abuse, mental illness or both.

Literature Review

This literature review will examine behavioral health issues before and since the inception of the Global War on Terrorism (GWOT), as well as quality of care outcomes, patient satisfaction, and patient-centered care. Before the declaration of the GWOT, Hoge et al. (2002) studied the impact of military service members' behavioral health disorders on health care utilization and occupational functioning by looking at 16 major

diagnoses under the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). Their findings concluded that nearly 50% of all personnel hospitalized over a nine year timeframe (1990-1999) were discharged from the service within six months of mental disorder diagnosis. For non-mental health related diagnoses, only 12 percent of military personnel were discharged within six months. Mental health disorders were the second leading cause of hospitalization in military personnel since 1995, but admissions for mental health disorders were declining. The study also noted that it appeared mental health disorders were the most resistant to managed care strategies (2002).

The assumption that exposure to combat would produce higher levels of mental illness in the U. S. Armed Forces was confirmed by a study conducted by Hoge et al. (2004). The researchers found that combat operations caused an increase in depression, anxiety, and Post Traumatic Stress Disorder (PTSD) among the military population. Hoge et al. (2004) surveyed troops prior to and after returning from deployments to Iraq and Afghanistan. Their findings revealed that the percentage of study subjects whose responses met the screening criteria for major depression, generalized anxiety, or PTSD was significantly higher after duty in Iraq (15.6 to 17.1 percent) than after duty in Afghanistan (11.2 percent). Pre-deployment rates to Iraq were 9.3 percent. Hoge et al. (2004) also found in their study that those in most need of behavioral health services reported the potential stigma as a barrier to seeking care.

Despite these results showing increased depression, anxiety, or PTSD in returning troops, the specific mental health illnesses do not typically require an inpatient stay. Offering inpatient behavioral health services will not necessarily address the

behavioral health needs of today's military force. Nevertheless, the researchers acknowledged that mental health diagnoses carry a stigma that keep many Soldiers from seeking care. Health care leaders should consider that as a result of not seeking care for behavioral health issues, over time, service members could acquire severe behavioral health issues that may require inpatient services.

In addition to demand, the quality of inpatient behavioral health care must also be considered. Druss, Miller, Pincus, & Shih (2004) utilized Healthcare Effectiveness Data and Information Set (HEDIS) measures of behavioral health performance to compare the volume of behavioral health delivery and the quality of behavioral health care. They found that HMOs with lower inpatient and outpatient volumes of care consistently and substantially performed poorly on the HEDIS behavioral health performance measures. A key limitation of the study, however, was that it focused on HMO plans and not provider specific patient volumes. A 2006 study by Cromwell & Maier found that larger unit inpatient facilities enjoyed economies of scale by spreading nursing and aide staff across more patients than smaller facilities. Higher volume facilities have higher adherence to HEDIS measures and lower costs.

Rosenheck, Wilson, & Meterko (1997) conducted a survey of Veterans Administration behavioral health patients to look specifically at patient satisfaction indicators of behavioral health care quality. Their findings indicated patients were less satisfied in large institutions and facilities that focused on research and education. Several similarities and differences with the VA and Fort Carson populations exist. EACH is a military health care institution that has an array of services that are

government administered. A difference exists in ages of the VA and active duty populations (Rosenheck et al, 1997).

Determining the proper staffing ratios for inpatient behavioral health is difficult, as there are no generally agreed upon numbers within the behavioral health community. However, it has been documented that higher staff to patient ratios and smaller treatment units are consistently associated with the effectiveness of inpatient units, regardless of treatment protocols (Menditto, 1992). Coleman & Paul (2001) found that the predictive power of raw staffing ratios is insufficient, however, for making staffing decisions or predicting the effectiveness of treatment when compared to discharge rates. Instead, they found that the amount of attention patients receive from staff is more important in improving the effectiveness of inpatient treatment programs than having more staff available. Coleman, Paul, & Schatschneider's study in 2007 supports the findings of the Coleman & Paul study in 2001. Overall rates of staff attention provided to patients explains a statistically significant variance in community tenure and the predictive power of important individual patient variables. Increasing staff attention rates predict meaningful increases in community tenure for patients, even among those patients with poor prognoses (Coleman et al., 2007).

Reaching appropriate levels of staff attention requires more than increasing the number of staff. Too few staff reduces the amount of attention staff are able to give to patients, which compromise care. Too many staff without proper training and responsibilities, however, may not increase patient attention rates because they may end up participating in other job-related activities that don't involve direct patient care. The proper mix of staff numbers and training must be met to insure the best patient

outcomes. Administrators must monitor the quantity and quality of staff-patient interactions to deliver the best care.

Since there are no specific industry standards for staffing ratios for inpatient behavioral health units, it is difficult to determine the optimum number and mix of providers. Therefore, decision-makers need guidelines to consider when determining how to allocate available resources to maximize quality of care. Hart & Connors (1996) developed a Resourcing Decision Model for military medical decision makers when faced with resource allocation decisions. The researchers listed the three critical questions: "(1) Does the proposal make good business sense? (2) Does it contribute to readiness? and (3) Is it the right thing for the patient?" (p. 552). They also found that patients who have family nearby, are in familiar surroundings, trust their local providers, and receive personalized care may impact the patient outcome.

Methods and Assumptions

Scope and Boundary Definitions

Time

This business case analysis assumes a five-year horizon beginning in FY09 through the end of FY13.

Organizations

This business case analysis is limited to EACH and its catchment area beneficiaries in and around Colorado Springs, CO. The specific affected areas within EACH include the Department of Behavioral Health, Nutrition Care Division, Facilities Management, and Department of Logistics.

Technologies

Technologies are not a consideration in this BCA. There are technologies that exist for behavioral health care such as telepsychiatry, but they are not being considered for this BCA. The financial burden of such technologies solely for an inpatient behavioral health unit are not cost efficient, and should be considered as a separate BCA that would provide services for the entire EACH population. Then the costs could be spread over a larger population, and lower it enough to be feasible to consider under an inpatient unit.

Facilities and Durable Equipment

EACH personnel advised that current facilities and equipment are insufficient to handle the operation of inpatient behavioral health services. These services include all inpatient behavioral health except for substance abuse. Since EACH does not currently provide these services, renovation of existing space or construction of a new facility will need to be reviewed as potential costs of the project.

Financial Metrics and Other Decision Criteria

The financial metrics considered in this BCA are return on investment and payback.

Return on Investment (ROI)

One of the most important elements in a project's financial analysis is expected profitability, which is generally assessed by return on investment. Return on investment is measured either in dollars such as net present value, or in percentage rate of return.

Net Present Value (NPV)

Net present value is a profitability measure that uses the discounted cash flow (DCF) technique. It measures the difference between the discounted present value of benefits and the discounted present value of costs. OMB Circular A-94 provides discounting guidelines for the Federal Government. The discount rate utilized for this BCA is the FY09 real discount rate of 1.6% (OMB, 2008). The real discount rate is an interest rate that has been adjusted to remove the effect of expected or actual inflation.

Internal Rate of Return (IRR)

Internal rate of return (IRR) is rate that equates the present value of the expected future cash inflows and outflows. IRR measures the rate of return on a project, but it assumes that all cash flows can be reinvested at the IRR rate.

Modified Internal Rate of Return (MIRR)

Modified internal rate of return assumes that cash flows from all projects are reinvested at the cost of capital as opposed to the project's own IRR.

Payback

Payback Period

The payback period is the number of years required to gain enough benefits from the project to offset the investment made to initiate the project, enabling the project to sustain itself from that point forward. This is often referred to as the breakeven point. Based on the MEDCOM BCA guidelines, the payback period should occur within two years.

Discounted Payback Period

The discounted payback period is the number of years it takes a firm to recover its project investment based on discounted cash flows. Utilization of the discounted payback period is a more desirable method to determine when the initial investment has been recouped, because future cash flows are not worth as much as those amounts in today's value. Therefore, this method provides a more accurate reflection of the time it will take to break even on a project.

Major Assumptions

- Workload volume will increase over the next five years.
 - This is based on a regression model showing a projected increase of an average of 620 bed days per year based upon the current rate of workload increase (see appendix A for the regression analysis).
- Prospective Payment System (PPS) rates will remain the same as FY09 or increase over the next five years.
- Patient acuity for inpatient behavioral health services at Ft. Carson is similar to that of patients at Ft. Hood.
 - This assumption is made, because both Ft. Carson and Ft. Hood are FORSCOM posts with an Active Duty Service Member (ADSM) population that deploys often. This is an important assumption, since the nurse and other provider staffing at Ft. Hood will be used as a model when developing the staffing requirements for Ft. Carson.
- The unit will be staffed with government civilian or contract providers.

- This assumption is made due to the limited number of military providers in the Army. If military providers are used, they will be pulled from providing the other services they are currently doing. Then these other services will need to be covered with backfill providers, most likely civilian or contract. Regardless of whether military providers are utilized, there will be a direct cost to the government of a civilian or contract provider to add these services. Therefore, this BCA assumes only civilian and contract providers, in order to assign a cost to the government for adding these additional services to its arsenal.

Data Sources

Workload

The workload data analyzed for this BCA was obtained from an M2 data pull (see appendix A for the actual data and M2 query screen shot).

Personnel

The personnel cost data estimates utilized in this BCA were obtained from www.salary.com. The costs and staffing information are outlined in appendix B.

Discount Rate

The discount rate of 1.6% used for return on investment analyses was obtained from OMB Circular A-94. The circular can be found at <http://www.whitehouse.gov/OMB/circulars/a094/a094.pdf>.

Facility Guidance

The guidance on facility space needed to operate inpatient behavioral health services was obtained from the DOD space planning guidance for healthcare facilities.

This guidance can be found at <http://www.tricare.mil/ocfo/ppmd/criteria.cfm>. See appendix D for specific information used in this BCA.

The facility costing information was obtained from the Unified Facilities Criteria (UFC): DOD Pricing Guide (3-701-07, 2 July 2007).

Scenario Design

Two different scenarios were considered in this BCA to determine the best course of action.

Status Quo

This alternative would have care continued in the fashion that it is currently being provided, which is through purchased care on the network.

Proposal Implementation

This alternative would establish inpatient behavioral health services at EACH, in which a majority of the inpatient behavioral health services would be provided. The small remaining portion of care that couldn't be provided through direct care would be sent to the network. Substance abuse detoxification is not being considered as part of the workload in this analysis.

Global Impact (Federal Government)

This alternative compares the financial differences between the status quo (having the services provided via purchase care) and proposal implementation (creating an inpatient behavioral health unit at EACH). This analysis will identify the absolute cost difference between providing the services in-house versus purchasing them on the network, regardless of how TMA or MEDCOM will provide specific reimbursement to the MTF. The benefit of this particular analysis will show the global impact to the overall

organization (Federal Government and taxpayers), without regard to the business line impact of the AMEDD and MTF. The usefulness to looking at this analysis is to see whether there would be a benefit to taxpayers even if the MTF itself did not see positive returns. This would reveal whether the MTF can provide the services in a less costly manner than the private sector. The proposal implementation scenario may not show financial benefits for the MTF due to the reduced PPS reimbursement (TMA decrements the PPS reimbursement in the Army by 34% to account for MILPERS funding). However, the global impact analysis may show savings to the taxpayer, which is ultimately the government's responsibility to work toward. This analysis could justify an attempt to reprogram funds from Budget Allocation Group (BAG) one to BAG two, if it's in the best interest of the taxpayer.

Business Line Impact (MTF)

This analysis specifically identifies the financial impact to EACH for implementing an in-house behavioral health unit. Even though the implementation may be beneficial to the government as a whole, special care must be taken at the MTF level to ensure there won't be a negative impact to other service lines. If TMA or MEDCOM doesn't fully fund the operation to the same level as what is being paid on the private sector, then it's likely that the MTF will have to find an internal bill-payer in order to implement these new services. This analysis will show the impact to the MTF if funding reimbursement is limited to the MILPERS reduced PPS rate for mental health bed days.

Business Impacts

Financial Models & Analysis

Workload Analysis

In order to properly assess what the future impacts of an inpatient behavioral health facility will be at EACH, an estimate needs to be made about what the future workload will look like. Appendix A outlines the historical inpatient behavioral bed days utilized by active duty service members (ADSMs) through purchased care in the Fort Carson area. Using this historical information, two regression models were developed to forecast future workload. One involves using population size as the independent variable, and the other utilizes time as the independent variable. Although regression should not typically be used to predict future workload, in this case it provides the best estimate of what the workload will look like continuing into the future.

When using ADSM enrollment as the independent variable, there was an R^2 of .00002. This means that there does not appear to be any correlation (positive or negative) between the number of eligible beneficiaries, and the utilization of inpatient behavioral health. When time is used as the independent variable there is an R^2 of .57, which shows a strong correlation between the passage of time and inpatient behavioral health utilization (see appendix A for regression analysis).

Figure 1 provides a graphical representation of the changes in inpatient behavioral health bed day utilization over the last five years (FY04-FY08). When initially looking at the figure, it appears there may be some seasonality impact on actual bed day utilization. Therefore, a comparison was run to determine whether simple linear regression or a seasonally adjusted model would be a better predictor of utilization.

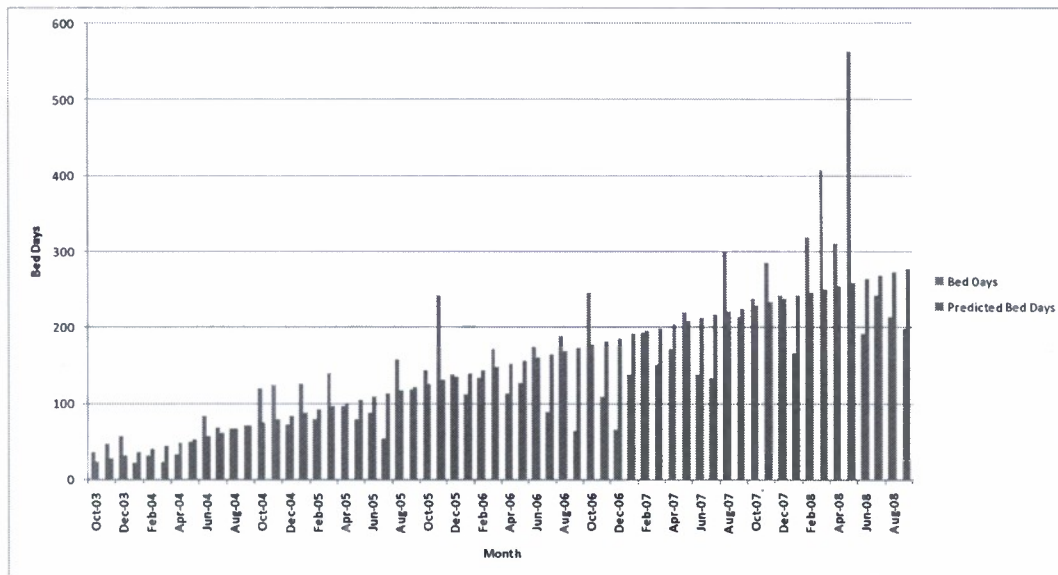


Figure 1. Fiscal month line fit plot for inpatient behavioral health workload.

In order to determine whether simple linear regression or a seasonally adjusted model is a better predictor, historical bed day data was used from FY04-07 to develop the models. The predictions of these models were then compared against actual FY08 utilization.

The first step involved developing a seasonality index for each fiscal month. Table 1 represents the multiplicative seasonality model adjustment for bed days by fiscal month. In order to develop this model, the historical bed day utilization for each fiscal month was averaged to develop an overall fiscal month estimate. Then each fiscal month average was divided by the average of all the fiscal months to determine a fiscal month index by which to seasonally adjust future bed day estimates.

The simple regression model using time (progressive fiscal month) as the independent variable for FY04-07 data produced the following equation: $y = 35.97518 + 3.285877x_i$ (see appendix A for the specific regression analysis). Table 2 shows the predicted linear forecasted bed days for FY08 using the above regression equation.

These estimates were then adjusted for seasonality based upon the fiscal month index, which are also shown in table 2.

Table 1

Multiplicative seasonality model.

FM	FY04	FY05	FY06	FY07	FM Average	FM Index
1	35	120	144	246	136.25	1.17
2	46	123	242	108	129.75	1.11
3	56	71	138	65	82.50	0.71
4	21	125	111	138	98.75	0.85
5	31	78	133	193	108.75	0.93
6	23	139	171	150	120.75	1.04
7	32	95	112	171	102.50	0.88
8	49	79	126	219	118.25	1.02
9	83	87	174	138	120.50	1.03
10	68	53	89	133	85.75	0.74
11	66	158	188	299	177.75	1.53
12	70	118	63	214	116.25	1.00
Overall Average					116.48	

In order to determine which method is a better predictor of actual bed day usage, a mean absolute deviation (MAD) was computed for each. The MAD represents the overall average of how far each month's forecast deviates from the actual bed days reported. A lower number represents a more accurate forecast (Ozcan, 2005). To calculate the MAD, each model's monthly prediction was compared against the actual FY08 bed day utilization to determine the absolute error (absolute value of the actual bed days minus the projected bed days). The absolute values for each model's deviations were added together and then divided by the total monthly forecasts (12) to calculate the final MAD. The MAD for simple linear regression was 86.87 and the MAD

for seasonality was 102.57. This means that the simple linear regression formula had less deviation from the actual bed day utilization, and therefore is the better predictor of future workload.

Table 2

Prediction model comparison.

Date	FM	Actual Bed Days	Linear Predicted Bed Days	Linear Absolute Error	Seasonality Predicted Bed Days	Seasonality Absolute Error
Oct-07	49	237	197	40.02	230	6.58
Nov-07	50	285	200	84.73	223	61.91
Dec-07	51	241	204	37.45	144	96.83
Jan-08	52	166	207	40.84	175	9.36
Feb-08	53	319	210	108.87	196	122.82
Mar-08	54	408	213	194.59	221	186.76
Apr-08	55	310	217	93.30	191	119.31
May-08	56	564	220	344.02	223	340.67
Jun-08	57	191	223	32.27	231	39.98
Jul-08	58	241	227	14.44	167	74.21
Aug-08	59	213	230	16.84	351	137.74
Sep-08	60	198	233	35.13	233	34.67
Mean Absolute Deviation (MAD)				86.87		102.57

To do a workload projection for this BCA, a simple linear regression was computed based on fiscal years 2004-2008. This analysis (which can be viewed in appendix A) yielded a regression equation of $y = 18.01 + 4.31x_i$. Using this formula, the projected workload is 3655 bed days for FY09. Projecting beyond FY09 would not be reasonable using linear regression, so the FY09 workload estimate will be used in each of the five fiscal years (FY09-13) analyzed in this BCA.

Status Quo

Inpatient behavioral health services are currently being performed entirely on the network in the Ft. Carson area. The utilization of these services by active duty service

members increased 679% between 2003 and 2008. Table 3 shows the increase in bed days, and associated costs to the government.

An estimate for the number of bed days in FY09 was calculated using simple linear regression based upon workload from FY04-08. An estimate for the average cost per bed day in 2009 was calculated using the average increase in costs for the previous two years for a conservative estimate. The estimate of a five percent increase was added to the FY08 cost per day, producing an FY09 estimate of \$775 per bed day. Since it is unreasonable to assume all workload will be recaptured and all-ten beds filled at any given time, a measure of 85% recapture will be used to compare costs between direct and purchase care. Therefore the workload amount that will be compared is 3107 bed days ($3655 \times .85$). When this amount is multiplied by \$775, an estimate of \$2,407,925 is established as the projected yearly cost of inpatient behavioral health on the network for FY09. This amount will be used when comparing the purchased care cost of delivery against the government cost of delivery.

Table 3

Historical purchased care bed days and costs for active-duty Soldiers at EACH.

Fiscal Year	Bed Days	Admissions	Average Bed Days per Admission	Amount Paid	Average Cost per Bed Day	% Change	Cost for 3655 Bed Days
2003	434	112	3.88	\$ 186,905.26	\$ 430.66		\$ 1,550,366.21
2004	580	134	4.33	\$ 313,247.95	\$ 540.08	25%	\$ 1,944,297.62
2005	1246	262	4.76	\$ 729,670.21	\$ 585.61	8%	\$ 2,108,196.43
2006	1691	303	5.58	\$ 1,132,325.49	\$ 669.62	14%	\$ 2,410,627.89
2007	2074	362	5.73	\$ 1,447,283.09	\$ 697.82	4%	\$ 2,512,159.65
2008	3373	455	7.41	\$ 2,491,667.63	\$ 738.71	6%	\$ 2,659,354.72
2009	3655*				\$ 775.65	5%*	\$ 2,834,415.95

Note. *Denotes an estimate; FY03-08 bed day and amount paid data retrieved from M2

Proposal Implementation

Facility Construction

Based on information provided by EACH personnel, current facility space is inadequate to support inpatient behavioral health services. Due to large increases in projected beneficiary populations, EACH has limited space available to support overall healthcare operations. EACH is already considering a satellite clinic to handle current workload throughout the hospital. Space for supporting inpatient behavioral health services would need to come either from: 1) renovation of existing space and transference of existing services to a satellite clinic; 2) constructing new space in the form of an attachment to the existing hospital; or 3) constructing a new freestanding facility. The most desirable alternative would be to construct an addition to the existing facility. This would lessen the burden of additional force protection requirements, The Joint Commission (TJC) requirements, and ease the burden on the nutrition care division to provide meals to the patients. It would also make it easier for logistics to manage supplies and housekeeping activities. Displacing a current service and forcing it to a satellite clinic would increase costs substantially by both having to renovate the existing space and construct/lease a new space for the existing service. Therefore, the approach for this BCA will be to construct new space attached to the current facility.

Table 4 shows an estimate of the space requirements needed for a ten-bed inpatient behavioral health unit. The description of different room requirements were obtained from the *Design guide for the built environment of behavioral health facilities* (Sine & Hunt, 2009). Square footage estimates for each room were obtained from the *DOD Medical Space Planning Criteria* (TRICARE PPMD, 2009). See Appendix D for

specific information used in this BCA. After determining the net square footage for the unit, it was multiplied by 50% to estimate the gross square footage requirement of 7942.5.

Table 4

Space requirements for a ten-bed inpatient behavioral health unit.

Description	Sq. Ft.	Quantity	Total Sq. Ft.
Patient Rooms (2 Bed)	400	3	1200
Patient Rooms (1 Bed)	305	4	1220
Staff Lounge	140	1	140
Staff Offices	120	2	240
NCOIC/LCPO/LPO Office	120	1	120
Administrative Work Area	60	2	120
Group Activity Room	250	1	250
Group Therapy	200	1	200
Physician's Charting/Dictation	80	1	80
Conference/Report Room	200	1	200
Treatment Room	175	1	175
Staff Restrooms	50	2	100
Nurse Station	150	1	150
Nurse Workroom	120	1	120
Nurse Supervisor's Office	120	1	120
Kitchen	120	1	120
Nourishment Center	100	1	100
Medication Preparation	100	1	100
Soiled Utility	100	1	100
Clean Linen	60	1	60
Clean Supply	120	1	120
Equipment Storage	100	1	100
Patient Property Storage	40	1	40
Stretcher and Wheelchair Storage	80	1	80
Crash Cart Storage	40	1	40
		Net Sq. Ft. =	5295
		Gross Sq. Ft. (Net x 1.5) =	7942.5

Table 5 shows the cost for constructing the 7942.5 sq. ft. inpatient unit. These cost estimates were based on information obtained from the DOD Facilities Pricing Guide (UFC 3-701-07, 2007). See appendix D for specific costing information used. FY09 medical clinic construction costs are estimated at \$264 per sq. ft. GPRMC facilities personnel advised to add 50% to this amount to account for the special requirements of inpatient behavioral health construction that extend beyond typical medical construction. These special requirements extend throughout the different areas of the unit, and include special door hardware, locks, furniture, exit signs, restroom facilities, fire sprinklers, etc. Specifics about the special requirements for inpatient behavioral health units can be found in the *Design guide for the built environment of behavioral health facilities* (Sine & Hunt, 2009). The DOD Facilities Pricing Guide also specifies adding seven percent to the estimates for construction in the Fort Carson, CO area. Therefore, an estimate of \$425 ($264 \times 1.5 \times 1.07$) per sq. ft. was used for build costs of the unit. The overall cost of constructing a ten-bed unit was estimated at \$4,584,013.

Table 5

Facility construction costs.

Description	Cost	
Gross Sq. Ft. (\$425 Sq. Ft.)	\$	3,375,562.50
Initial Outfitting (20% Sq. Ft. Cost)	\$	675,112.50
Transition (10% Sq. Ft. Cost)	\$	337,556.25
Corps of Engineers Contracting Fee (5.8% of Sq. Ft. Cost)	\$	195,782.625
Total Cost =		\$ 4,584,013.88

The Army Corps of Engineers contracting fee to handle the build process was estimated at 5.8% of the build cost. The 5.8% figure was provided by GRPMC facilities

personnel who are familiar with the current amount charged by the Army Corps of Engineers to handle military construction contracts for medical facilities.

Capital Equipment

Initial outfitting of the unit for furniture and basic equipment was estimated at 20% of the build cost. The 20% figure was provided by GPRMC facilities personnel who are experienced with military hospital construction/renovation, and familiar with costs associated to initially outfit them for use.

Facility Transition Costs

Transition costs for moving the new services in was estimated at ten percent of the build costs. The 10% figure was provided by GPRMC facilities personnel who are experienced with military hospital construction/renovation, and familiar with costs associated to transition them to use.

Personnel

As of yet, there exists no specific staffing ratios in the Army for inpatient behavioral health units. The closest information available comes from the Automated Staffing Assessment Model (ASAM), which considers this service largely a nursing function. Therefore, the ASAM model utilizes the Workload Management System for Nursing (WMSN) to assist in determining suggested nursing staffing levels. The WMSN system is based upon patient acuity. Since no current data exists for EACH patient acuity levels, the ASAM model for this project was developed using historical Ft. Hood patient acuity levels for inpatient behavioral health. Ft. Hood data was used, because this was the closest demographic base that had an existing operational inpatient behavioral health unit in the Great Plains region. Table 6 shows the ASAM

recommended nurse staffing levels by full-time equivalent (FTE). This analysis was based on 300 bed days per month (average amount based on number of beds in the unit). Since this project is assuming 85% recapture, the ASAM FTE amounts were updated in the table to reflect the decrease to 3107 bed days instead of 3600. The full analysis can be viewed in appendix B.

Unfortunately, ASAM only provides a model for nursing, and doesn't account for other types of providers. In order to get a more realistic picture for the necessary staffing of an actual inpatient behavioral health inpatient unit, Ft. Hood was used as a benchmark. Table 7 shows the MEPRS data for the amount of FTEs being utilized to run their inpatient behavioral health unit.

Table 6

ASAM recommended FTE staffing levels.

Nursing Type	Days (45%)	Evenings (35%)	Nights (20%)	Total
RN	5.47	4.26	2.43	12.16
LPN/NA/ADM	8.93	6.94	3.97	19.84
RN (85% Adjusted)	4.72	3.67	2.10	10.49
LPN/NA/ADM (85% Adjusted)	7.71	5.99	3.42	17.12

Table 7

Fort Hood Inpatient Behavioral Health MEPRS Data.

FY	Available Admin FTEs	Available Clinician FTEs	Available Para-Prof FTEs	Available Prof FTEs	Available RN FTEs	Available Total FTEs	Bed Days
2007	0.85	1.55	11.27	0.13	6.58	20.37	2715
2008	1.09	1.9	13.5	0.31	7.99	24.79	2857

Note. MEPRS data retrieved from M2.

Table 8 shows the estimated required FTEs to operate an inpatient behavioral health unit based on Ft. Hood's historical usage. The FTE ratio per bed day for each

personnel category at Ft. Hood was multiplied by the number of bed days estimated for EACH, to arrive at an overall available FTE estimate. This number was then divided by .96 to account for 4% non-available FTE time, to arrive at a total required FTE amount that is represented in table 8. Four-percent was used as a non-available FTE estimate, because this is the current amount of behavioral health provider time at Ft. Hood not being spent in clinic according to the Command Management System (CMS) website.

Table 8

Estimated required available personnel FTEs for EACH.

FY 2009	Admin FTEs	Clinician FTEs	Para-Prof FTEs	Prof FTEs	RN FTEs	Total FTEs	Bed Days
Carson Estimate	1.23	2.15	15.29	0.35	9.05	28.08	3107

Based upon the FTE estimates in table 8, an estimate was produced for specific personnel types to staff the unit. Table 9 outlines the number and type of each position, along with the costs to employ them. The psychiatrists and psychologist are not whole FTEs, because they can work in outpatient clinics when not providing care in the inpatient unit. Salary costs were obtained from www.salary.com. An outline of these costs is provided in appendix B. An estimate of 28% was applied to each salary amount to determine the cost of benefits, and 25% was applied to the psychiatrist and psychologist salaries to account for retention of personnel in these difficult to fill positions. The overall estimated personnel cost for this BCA is \$2,052,877.

In addition to the yearly salaries, start-up costs need to be considered. Costs for one month worth of salary will be included in this BCA to account for the lead time necessary before staff can start seeing patients.

Table 9

Estimated annual personnel costs for EACH inpatient behavioral health unit.

Type	FTEs	Base Salary (\$)	Benefits (\$) (28%)	Retention (\$) (25%)	Total Cost (\$)
Psychiatrist	2.15	176,449	49,406	44,112	580,429
Psychologist	0.35	76,939	21,543	19,235	41,201
Psychiatric Head Nurse	1	83,043	23,252	0	106,295
Psychiatric RN	8	60,543	16,952	0	619,960
LPN	8	38,675	10,829	0	396,032
Psychiatric Technician	7.5	27,908	7,814	0	267,917
Administrative	1	32,065	8,978	0	41,043
Totals	28				2,052,877

Ancillary

Ancillary costs are based upon Fort Hood's FY08 ancillary expenses for its inpatient behavioral health unit as captured in EAS IV repository (D account/ancillary services). According to the medical expense and performance reporting system for fixed military medical and dental treatment facilities manual (2008), this account captures costs associated with pharmacy services, pathology, special procedure services, central sterile supply, ambulatory nursing services, rehabilitative services, etc.

In FY08, Fort Hood spent \$373,260 in ancillary costs to support their inpatient behavioral health unit (see appendix B). Based on 2857 bed days, Fort Hood spent an average of \$131 per bed day in ancillary costs. Based on a yearly bed day projection of 3107 at EACH, ancillary costs are estimated to be \$407,017 (131×3107).

Overhead

Overhead costs are based upon Fort Hood's FY08 overhead expense as captured in EAS IV repository (support services E account). According to the medical

expense and performance reporting system for fixed military medical and dental treatment facilities manual (2008), this account captures costs associated with depreciation; Command, management, and administration; support services; materiel services; real property management (facilities & engineering); facility sustainment; operation of utilities; housekeeping service; biomedical equipment repair; laundry service; nutrition management; inpatient care administration; ambulatory care patient administration; and managed care administration.

In FY08, the Fort Hood inpatient behavioral health unit had an overhead expense of \$1,066,020 (see appendix B). This equates to a per bed day cost of \$373. When this cost is multiplied by the 3107 projected bed days at EACH, a total of \$1,158,911 is estimated for overhead on this BCA.

Reimbursement

MTF Impact

The TRICARE Management Activity (TMA) currently reimburses the Army Medical Department (AMEDD) for workload based upon a prospective payment system (PPS). Inpatient behavioral health services are specifically reimbursed based upon mental health bed days (not Relative Weighted Products (RWPs)). The FY09 PPS rate for mental health bed days at Ft. Carson is \$745. For the actual reimbursement, that rate is reduced by 34% to account for MILPERS funding in the AMEDD. Therefore, the reimbursement given to the AMEDD from TMA is \$492 per bed day.

The AMEDD also utilizes a funding adjustment system called the Performance Based Adjustment Model (PBAM) to provide incentives for Army military treatment facilities (MTFs) to improve workload efficiencies. If the aggregate average of bed days

per discharge exceeds the facility standard by more than 5%, MEDCOM Resource Management (RM) will start to decrement MTF funding by 10% of the difference (called an efficiency adjustment). MEDCOM will also provide additional funding by 10% of the difference if the MTF manages to stay below the average number of bed days per discharge. This is to incentivize MTFs to become more efficient in handling their workload. Since the MTF does not currently provide this service, there is no target workload to compare to. Therefore, the reimbursement rate for the financial analysis of this BCA will be based upon the PPS reimbursement of \$492, without consideration of potential PBAM adjustments. Since the BCA analysis is based upon an 85% recapture rate, the overall expected direct care workload for FY09 is 3107 bed days ($3655 \times .85$). A reimbursement rate of \$492 for 3107 bed days equates to an FY09 reimbursement of \$1,528,644.

Global Impact

The reimbursement amount used for the global impact scenario is the amount the government is estimated to pay the purchased care network for the same services. Based on the estimate shown in table 3, the reimbursement amount to the purchase care network for FY09 is \$775 per bed day. When that number is multiplied by the estimated workload of 3107 bed days, the estimated purchase care reimbursement amount is \$2,407,925 (3107×775). This amount will be used as the reimbursement for the global impact financial projections.

Financial Projections

Global Impact

In order to determine the project's impact on the federal government as a whole, a comparison needs to be done with regards to the reimbursement which the government is paying the private sector (estimated at \$775 per bed day in FY09). Table 10 shows what the project financial projections would be if the MTF were reimbursed the same amount as the private sector. This analysis shows that utilizing the MTF to perform these services would result in a yearly net loss of \$1,210,880 each year. When the yearly cash flows are discounted back to present value, the project is estimated to result in a net loss of \$10,529,387 (facility construction + annual operating losses). A copy of the excel formulas used in this table is provided in appendix C.

Table 10

Financial impact to taxpayers.

	FY08	FY09	FY10	FY11	FY12	FY13
Personnel	\$ 171,073.08	\$ 2,052,877.00	\$ 2,052,877.00	\$ 2,052,877.00	\$ 2,052,877.00	\$ 2,052,877.00
Ancillary		\$ 407,017.00	\$ 407,017.00	\$ 407,017.00	\$ 407,017.00	\$ 407,017.00
Overhead		\$ 1,158,911.00	\$ 1,158,911.00	\$ 1,158,911.00	\$ 1,158,911.00	\$ 1,158,911.00
Facility Construction	\$ 4,584,013.00					
Total Costs	\$ 4,755,086.08	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00
Reimbursement	\$ -	\$ 2,407,925.00	\$ 2,407,925.00	\$ 2,407,925.00	\$ 2,407,925.00	\$ 2,407,925.00
Yearly Cash Flow	\$ (4,755,086.08)	\$ (1,210,880.00)	\$ (1,210,880.00)	\$ (1,210,880.00)	\$ (1,210,880.00)	\$ (1,210,880.00)
NPV	\$ (4,755,086.08)	(\$1,191,811.02)	(\$1,173,042.35)	(\$1,154,569.24)	(\$1,136,387.05)	(\$1,118,491.19)
Cash Flow NPV	(\$5,774,300.84)					
Total NPV	\$ (10,529,386.92)					

The internal rate of return (IRR) cannot be calculated, because there is no positive return for the global impact scenario. Payback period also cannot be calculated, since the project will result in an overall financial loss to the federal government as a whole. The payback period would be infinite, since there are no positive cash flows from the project.

Table 11 shows the analysis to determine the modified internal rate of return (MIRR) for the global impact of the proposed project. The resulting MIRR is -10.8%.

Table 11

MIRR calculations for global impact.

	FY08	FY09	FY10	FY11	FY12	FY13
Cash Outflows	\$ 4,755,086.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00
Cash Inflows		\$ 2,407,925.00	\$ 2,407,925.00	\$ 2,407,925.00	\$ 2,407,925.00	\$ 2,407,925.00
FV of Cash Inflows		\$ 2,565,770.38	\$ 2,525,364.55	\$ 2,485,595.03	\$ 2,446,451.80	\$ 2,407,925.00
NPV (Cash Outflows)	\$22,012,013.81					
NFV (Cash Inflows)	\$12,431,106.76					
n	5					
$MIRR = \left(\sqrt[n]{\frac{NFV (Cash Inflows)}{NPV (Cash Outflows)}} \right) - 1 \quad MIRR = \left(\sqrt[5]{\frac{12,431,106}{22,012,013}} \right) - 1$						
MIRR =	-10.80%					

MTF Impact

Table 12 outlines the overall financial projections for the direct impact of this project on EACH itself. FY08 costs represent facility construction costs, and one month upstart for training personnel and readying the facility for treatment of patients. FY09-13 represents yearly operating costs and revenues. Each fiscal year has an operating loss of \$2,090,161, because the PPS reimbursement is not robust enough to cover full operation of an inpatient behavioral health unit. When the yearly cash flows are

discounted back to present value, the project is estimated to result in a net present loss of \$15,041,311 (facility construction + annual operating losses). A copy of the excel formulas used in this table is provided in appendix C.

Table 12

Financial impact to the MTF.

	FY08	FY09	FY10	FY11	FY12	FY13
Personnel	\$ 171,073.08	\$ 2,052,877.00	\$ 2,052,877.00	\$ 2,052,877.00	\$ 2,052,877.00	\$ 2,052,877.00
Ancillary		\$ 407,017.00	\$ 407,017.00	\$ 407,017.00	\$ 407,017.00	\$ 407,017.00
Overhead		\$ 1,158,911.00	\$ 1,158,911.00	\$ 1,158,911.00	\$ 1,158,911.00	\$ 1,158,911.00
Facility Construction	\$ 4,584,013.00					
Total Costs	\$ 4,755,086.08	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00
Reimbursement	\$ -	\$ 1,528,644.00	\$ 1,528,644.00	\$ 1,528,644.00	\$ 1,528,644.00	\$ 1,528,644.00
Yearly Cash Flow	\$ (4,755,086.08)	\$ (2,090,161.00)	\$ (2,090,161.00)	\$ (2,090,161.00)	\$ (2,090,161.00)	\$ (2,090,161.00)
NPV	\$ (4,755,086.08)	\$ (2,057,245.08)	\$ (2,057,245.08)	\$ (2,057,245.08)	\$ (2,057,245.08)	\$ (2,057,245.08)
Total NPV	\$ (15,041,311.48)					

The internal rate of return (IRR) cannot be calculated, because there is no positive return for the project. Payback period also cannot be calculated, since the project will result in an overall financial loss to the MTF. The payback period would be infinite, since there are no positive cash flows from the project.

Table 13 shows the analysis to determine the MIRR for the global impact of the proposed project. The resulting MIRR is -18.55%.

Table 13

MIRR calculations for MTF impact.

	FY08	FY09	FY10	FY11	FY12	FY13
Cash Outflows	\$ 4,755,086.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00	\$ 3,618,805.00
Cash Inflows		\$ 1,528,644.00	\$ 1,528,644.00	\$ 1,528,644.00	\$ 1,528,644.00	\$ 1,528,644.00
FV of Cash Inflows		\$ 1,628,850.36	\$ 1,603,199.17	\$ 1,577,951.94	\$ 1,553,102.30	\$ 1,528,644.00
NPV (Cash Outflows)	\$22,012,013.81					
NFV (Cash Inflows)	\$7,891,747.78					
n	5					
$MIRR = \left(\sqrt[n]{\frac{NFV (Cash Inflows)}{NPV (Cash Outflows)}} \right) - 1 \quad MIRR = \left(\sqrt[5]{\frac{7,891,747}{22,012,013}} \right) - 1$						
MIRR =	-18.55%					

Non-Financial Impacts

Although there exist substantial financial impacts regarding proposal implementation, non-financial impacts need to be addressed as well. Since these impacts are not easily quantifiable in terms of hard benefits, their importance in the BCA rests upon the value EACH personnel place on them.

Access to Care

Particularly in the Ft. Carson area, it is sometimes difficult to refer patients to the network for inpatient behavioral health services. This problem will only be exacerbated in the coming years as the military beneficiary population continues to grow in the area. Having a direct care facility for these services would help ensure there are always beds available when needed. Providing these services internally will also send a message that the military is concerned with the needs of its Soldiers, and that it is taking every step possible to keep the Soldiers in the military community where providers understand the unique issues that a Soldier facing that may lead to such a hospitalization.

Travel Distance

Over the past year, EACH has had to refer patients out as far as Denver to obtain access to inpatient behavioral health services. By not having an inpatient facility on Ft. Carson, additional costs are incurred by the government and beneficiary families in travel costs. This not only includes the mileage and gas costs, but also the opportunity costs associated with the time taken to drive out and visit the patients. This is very valuable time to the government, considering squad leaders, Commanders, and Warrior Transition Unit (WTU) personnel visit the patients frequently during their inpatient stays, which could last up to 30 days. Having an inpatient facility on the post would tremendously cut down the travel time these government personnel spend commuting back and forth to visit the patient several times a week. This additional travel time equates to lost productivity in the work units these personnel are assigned to.

Referral Management

Providing inpatient behavioral health services at EACH can improve referral management. Some of the potential problems that may arise when utilizing these services on the network can include having medications prescribed that aren't on the TRICARE formulary, patients filling prescriptions downtown upon discharge that aren't in the purview of MTF providers, having inpatient behavioral health network providers treat other illnesses (outside behavioral health) that aren't in accordance with what the MTF provider would direct, and having unclear and/or untimely discharge orders (there is a delay between the discharge and time when the TRICARE contract requires network providers to submit discharge information back to the government). All these things can complicate the continuum of care, and decrease overall efficiency and quality

of care. By providing these services in the MTF referring providers would potentially have greater access to the providers treating the inpatient active duty service members, and could coordinate subsequent outpatient care or other actions more effectively. This would also create a longitudinal health record of the issues the Soldier is facing, which would allow the outpatient providers greater information when developing a treatment plan.

Internal Expertise

By having inpatient behavioral health services internal to EACH, the hospital gains a valuable resource for consulting. The inpatient providers can be utilized to consult on outpatient care issues, and improve the overall management of care to help fend off the need for inpatient behavioral health services in general. Having an inpatient behavioral health unit would give EACH and the AMEDD a better picture of the pathology associated with repeated deployments and the stress placed on our military force, and adds to the Army's knowledge base. It can also be argued that the military providers have a greater understanding of where the Soldier is coming from, and the specific issues that relate to military service. This gives them a unique perspective that civilian providers do not necessary possess, which can make them more effective at treating Soldiers. By increasing this internal expertise and gaining insight into the disease process, military providers could develop strategies to reduce the need for hospitalization of other Soldiers in the future.

Resource Dependency

By relying solely on purchased care to provide inpatient behavioral health services, the military health system (MHS) increases its resource dependency on the

network. This dependency can be detrimental to the Military's mission if the network has any difficulty providing support (as has been the case before in the Ft. Carson area). This difficulty can manifest in an inability to find open beds, distance to travel to an available facility, overall quality of care provided, etc. By establishing inpatient behavioral health services internal to the hospital, EACH can decrease the MHS dependency on the network and ensure a certain standard of care will always be available to meet mission requirements.

Sensitivity & Risk Analysis

Sensitivity Analysis

The major assumption of this BCA is that reimbursement rates and workload will remain constant or increase over the next five years. Since both reimbursement and workload could easily change, it is important to review the impacts of any decreases that may occur. Table 14 shows the different reimbursement amounts based on decrements to projected workload or reimbursement. For every 5% reduction in workload at the current PPS rates, a reimbursement decrement of \$76,432 occurs. If both workload and PPS rates drop by 5%, then a reimbursement decrement of \$149,043 occurs.

These changes can have a dramatic impact on the MTF for two reasons. First, there are fixed costs that cannot be adjusted when workload or reimbursement changes. This causes an immediate loss to the MTF. Second, variable costs are difficult to adjust, because most of them are personnel costs. Although some personnel can be reassigned to other areas in the hospital, there is a lag time between the workload decrease and ability to move personnel. During that time, costs will continue to incur to

the unit even though there is no reimbursement to cover. If reimbursement rates decrease, there isn't much recourse for the MTF to adjust. Minimum staffing levels must be met to provide quality care, so the MTF would be on the line to find another bill-payer within the hospital.

Table 14

Sensitivity analysis for workload and reimbursement.

% of Assumption	New Bed Days	\$492 Reimbursement	New Reimbursement	New Reimbursement at New Bed Days
100%	3107	\$ 1,528,644	\$ 492	\$ 1,528,644
95%	2952	\$ 1,452,212	\$ 467	\$ 1,379,601
90%	2796	\$ 1,375,780	\$ 443	\$ 1,238,202
85%	2641	\$ 1,299,347	\$ 418	\$ 1,104,445
80%	2486	\$ 1,222,915	\$ 394	\$ 978,332
75%	2330	\$ 1,146,483	\$ 369	\$ 859,862
70%	2175	\$ 1,070,051	\$ 344	\$ 749,036
65%	2020	\$ 993,619	\$ 320	\$ 645,852
60%	1864	\$ 917,186	\$ 295	\$ 550,312
55%	1709	\$ 840,754	\$ 271	\$ 462,415
50%	1554	\$ 764,322	\$ 246	\$ 382,161
45%	1398	\$ 687,890	\$ 221	\$ 309,550
40%	1243	\$ 611,458	\$ 197	\$ 244,583
35%	1087	\$ 535,025	\$ 172	\$ 187,259
30%	932	\$ 458,593	\$ 148	\$ 137,578
25%	777	\$ 382,161	\$ 123	\$ 95,540
20%	621	\$ 305,729	\$ 98	\$ 61,146
15%	466	\$ 229,297	\$ 74	\$ 34,394
10%	311	\$ 152,864	\$ 49	\$ 15,286
5%	155	\$ 76,432	\$ 25	\$ 3,822

Risk Analysis

Workload

The major risk associated with this BCA is the amount of available workload. The sensitivity analysis shows the impact of workload on the overall viability of the project. The biggest concern with this kind of workload, is that it's not the type of workload the MTF would want to generate or increase. The best thing for MTF beneficiaries is to decrease the overall amount of this type of workload. If the workload substantially decreases, EACH would be stuck with a very expensive facility that would require a lot of renovation to use it for a different purpose.

Patient Acuity

The BCA staffing is based upon how Ft. Hood is currently staffing its inpatient BH unit, and the acuity levels of patients in that facility. If the acuity of a patient at EACH is substantially different, it can have a considerable impact on the staffing requirements needed to support that population. Since clinicians can cost \$130 (total cost ÷ 2080) per hour, changes in treatment demands can result in much higher or lower staffing costs. Meaning, if patients require a higher level of care during their admission, the personnel costs are increased through an additional number of staffing hours required to treat the patient.

Deployments

The analysis in this business case has been based upon utilizing contract or civilian personnel. If staffing cannot be obtained through contract or government civilians and military personnel are ultimately utilized, then risk in the case increases due to the chance of deployments.

Personnel Costs

Personnel costs could rise significantly due to the increased demand the military is creating for behavioral health specialists. The military is not only increasing the raw demand of these personnel through increasing behavioral health care and programs, it is increasing demand artificially through its contracting methods. The military is artificially increasing the costs of these providers through contracting, because there are multiple contracts being awarded for the same types of providers. Providers then have the ability to jump from contract to contract, forcing the contractors to raise wage rates in order to hire and retain personnel. These costs eventually get passed on to the government, even though the government is not technically getting any additional value. Until a better system is devised for contracting for the multiple behavioral health providers across the military, the government will continue to rob itself of providers in one area only to increase the costs of providing those services elsewhere.

Reimbursement

Financial reimbursement will not be made available to EACH until after the workload has been performed (PPS and PBAM). Therefore, EACH will front all supply and personnel costs in anticipation of providing services and being reimbursed. There is a risk that if a certain level of workload is not achieved, EACH will have to absorb those upfront costs without any form of reimbursement.

Conclusion & Recommendations

Conclusion

Based strictly upon the direct financial impact to EACH and the federal government, implementing an inpatient behavioral health unit is not recommended.

Implementation would result in a substantial financial loss to Evans Army Community Hospital each fiscal year, potentially causing adverse impact to other product lines. The projected yearly losses are over \$2,090,161 per year, not included the original investment of nearly \$5,000,000. Implementation would also result in an overall yearly operating loss to the federal government of \$1,210,880.

Analysis Recommendation

If EACH personnel choose to continue evaluation of this proposal, opportunity costs associated with government personnel traveling outside Ft. Carson to visit inpatient behavioral health patients should be further analyzed. In FY08, inpatient behavioral health in the EACH area averaged 7.41 bed days per admission (see table 3). If an average of 7.41 bed days per admission were applied to the estimated FY09 workload of 3107 bed days, then the estimated FY09 admission number would be 419. If every patient that was admitted had government personnel spending an average of five hours travel time back and forth from their offices to the purchased care facility to visit the patient, then an average of 2095 (419 admissions x 5 hours) hours per year would be spent traveling. That's as much as an entire FTE worth of personnel costs. The opportunity costs associated with travel are high to the Army, federal government, and patients' families. Although not easily quantifiable, these costs should be considered when deciding whether to move forward with a project such as this. EACH would also need to generate a MEDCOM BCA package, and a design for plan to develop specific build requirements for the unit.

Further Research

External Resource Sharing

A potential option that wasn't considered in this BCA is to create an external resource sharing agreement with local purchased care institutions. An external resource sharing agreement would have the Soldiers treated at a private facility in the community, but the providers would be military assets. This would allow for military providers to treat active duty patients, without all the overhead of operating a facility. The military providers could treat the patients and document their visits in AHLTA, allowing for a longitudinal health record for the Soldier. The outpatient providers could then access this useful information for providing better treatment after the hospitalization. Utilizing this method for inpatient treatment would also keep the government away from an expensive MILCON project, and avoid being stuck with a facility that may not be required in the future.

VA Sharing

Another option would be to contact the Department of Veterans Affairs to determine the viability of a Joint Incentive Fund (JIF) project for inpatient behavioral health services in the Colorado Springs area.

CPT Dalmar Jackson (2009) conducted a study on the viability of an inpatient behavioral health sharing (not JIF) project at Fort Hood, which showed a potential for significant positive return on investment. This study could be used as a template to look at a similar sharing project for the Colorado Springs area.

Workload Model Development

A model needs to be developed for predicting inpatient behavioral health workload other than one that is population-based. Inpatient behavioral health workload does not have a strong correlation to the overall active duty population, as shown in the regression analysis in the workload section of this BCA. Although regression should not be used to predict future workload, it shows a historical trend that indicates workload will continue to increase at a high rate. Since time itself doesn't cause workload increase, further investigation needs to be done to determine the actual causes of high increase in workload over time. Some causes most likely relate to the OPTEMPO and number of deployments the Soldiers have had to endure, along with the specific stressors the Soldiers faced while deployed.

Developing an accurate model for predicting workload can serve two purposes. First, it allows for identification of the major factors that influence the utilization of these services. This will assist in development of alternative programs for prevention, to minimize the use of inpatient behavioral health services in general. Second, it will help determine what level of inpatient behavioral health services are needed in different locations across the Army, and to ensure both purchased and direct care have the availability of beds to meet the needs of our Soldiers.

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Appendix A: Workload Data

EACH Historical PC Workload Data Summary

FY	FM	Bed Days
2004	1	35
	2	46
	3	56
	4	21
	5	31
	6	23
	7	32
	8	49
	9	83
	10	68
	11	66
	12	70
2004 Total		580

FY	FM	Bed Days
2005	1	122
	2	123
	3	71
	4	125
	5	78
	6	139
	7	95
	8	84
	9	87
	10	53
	11	158
	12	118
2005 Total		1253

FY	FM	Bed Days
2006	1	144
	2	242
	3	138
	4	111
	5	133
	6	171
	7	112
	8	126
	9	174
	10	92
	11	188
	12	63
2006 Total		1694

FY	FM	Bed Days
2007	1	246
	2	112
	3	65
	4	138
	5	193
	6	150
	7	171
	8	219
	9	138
	10	138
	11	299
	12	218
2007 Total		2087

FY	FM	Bed Days
2008	1	245
	2	285
	3	241
	4	170
	5	324
	6	408
	7	310
	8	564
	9	191
	10	244
	11	213
	12	198
2008 Total		3393

Historical Purchase Care Workload M2 Query

Query Panel - MHS MART (M2) Universe

Scope of Analysis: None

Classes and Objects

TRICARE Relationships (DEERS)

Health Care Services

Case Management

Direct Care

Purchased Care

Institutional (HCSR/TED)

Institutional Summary

Admission Count, Raw

Admission Count, Total

Amt OHI, Raw

Amt OHI, Total

Amt Patient Cost Share, Raw

Amt Patient Cost Share, Total

Amt Patient Paid, Overall, Raw

Amt Patient Paid, Overall, Total

Amount Allowed, Raw

Amount Allowed, Total

Amount Paid, Raw

Amount Paid, Total

Bed Days, Raw

Result Objects

ACV Group

Age Group Common

Ben Cat: Common

Catchment Area Name

MDC

Enrollment Status

Sponsor Service

Admission Count, Raw

Amount Paid, Raw

Bed Days, Raw

FY

Conditions

Catchment Area ID Equal to '0032'

And

FY In list 1999,2000,2001,2002,2003,2004,2005,2006,2007,2008

Options...

Save and Close

View...

Run

Cancel

EACH Historical Purchase Care Workload Data

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2002	1	17	18-24	4	19	A	5	\$6,342.00
2002	1	4	18-24	4	19	A	1	\$1,200.00
2002	2	16	18-24	4	19	A	5	\$8,688.23
2002	2	4	18-24	4	19	A	1	\$2,028.00
2002	2	5	25-34	4	19	A	1	\$1,500.00
2002	2	3	25-34	4	19	A	1	\$1,380.00
2002	2	5	35-44	4	19	A	1	\$1,500.00
2002	3	26	18-24	4	19	A	6	\$9,870.00
2002	3	2	25-34	4	19	A	1	\$600.00
2002	4	19	18-24	4	19	A	5	\$7,770.00
2002	4	5	18-24	4	19	A	1	\$2,547.56
2002	4	5	18-24	4	19	A	1	\$2,535.00
2002	4	5	25-34	4	19	A	2	\$1,914.00
2002	4	3	25-34	4	19	A	1	\$1,528.54
2002	4	5	35-44	4	19	A	1	\$1,500.00
2002	5	17	18-24	4	19	A	4	\$6,756.00
2002	5	14	18-24	4	19	A	3	\$5,649.00
2002	5	6	25-34	4	19	A	2	\$2,628.00
2002	6	4	18-24	4	19	A	1	\$2,028.00
2002	6	30	18-24	4	19	A	10	\$11,691.00
2002	6	6	18-24	4	19	A	2	\$3,042.00
2002	6	5	25-34	4	19	A	2	\$1,914.00
2002	6	4	35-44	4	19	A	1	\$1,200.00
2002	7	2	18-24	4	19	A	1	\$1,014.00
2002	7	8	18-24	4	19	A	4	\$2,400.00
2002	7	13	25-34	4	19	A	3	\$4,935.00
2002	7	3	25-34	4	19	A	1	\$900.00
2002	8	8	18-24	4	19	A	1	\$5,695.06
2002	8	39	18-24	4	19	A	10	\$14,598.00
2002	8	5	18-24	4	19	A	1	\$2,535.00
2002	8	33	25-34	4	19	A	9	\$12,084.00
2002	9	2	18-24	4	19	A	1	\$600.00
2002	9	20	18-24	4	19	A	6	\$8,453.90
2002	9	2	18-24	4	19	A	1	\$600.00
2002	9	5	25-34	4	19	A	2	\$1,914.00
2002	9	4	25-34	4	19	A	1	\$1,840.00
2002	9	14	35-44	4	19	A	2	\$7,098.00
2002	10	39	18-24	4	19	A	13	\$16,339.00
2002	10	4	18-24	4	19	A	1	\$1,200.00
2002	10	23	25-34	4	19	A	4	\$10,626.00
2002	11	2	18-24	4	19	A	1	\$600.00
2002	11	6	18-24	4	19	A	1	\$2,700.00
2002	11	36	18-24	4	19	A	7	\$15,813.00
2002	11	6	18-24	4	19	A	1	\$3,042.00
2002	11	7	25-34	4	19	A	3	\$2,721.00
2002	11	4	35-44	4	19	A	1	\$1,840.00
2002	12	1	18-24	4	19	A	1	\$300.00
2002	12	47	18-24	4	19	A	12	\$18,532.00
2002	12	2	18-24	4	19	A	1	\$600.00

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2002	12	9	25-34	4	19	A	2	\$3,321.00
2002	12	8	25-34	4	19	A	2	\$3,774.00
2002	12	2	45-64	4	19	A	1	\$1,014.00
2003	1	16	18-24	4	19	A	5	\$7,281.00
2003	1	2	18-24	4	19	A	1	\$600.00
2003	1	5	25-34	4	19	A	1	\$1,500.00
2003	1	5	25-34	4	19	A	1	\$1,500.00
2003	1	6	35-44	4	19	A	1	\$3,042.00
2003	2	1	18-24	4	19	A	1	\$750.00
2003	2	23	18-24	4	19	A	6	\$8,660.00
2003	2	1	18-24	4	19	A	1	\$533.77
2003	2	4	18-24	4	19	A	1	\$1,200.00
2003	2	15	25-34	4	19	A	3	\$8,550.00
2003	2	2	35-44	4	19	A	1	\$600.00
2003	3	25	18-24	4	19	A	7	\$9,363.00
2003	3	11	18-24	4	19	A	2	\$6,363.00
2003	3	18	25-34	4	19	A	6	\$7,292.52
2003	3	8	25-34	4	19	A	1	\$4,056.00
2003	4	19	18-24	4	19	A	9	\$9,030.73
2003	4	5	18-24	4	19	A	0	\$2,535.00
2003	4	3	25-34	4	19	A	2	\$900.00
2003	4	1	35-44	4	19	A	1	\$300.00
2003	5	29	18-24	4	19	A	6	\$8,710.32
2003	5	19	25-34	4	19	A	4	\$5,700.00
2003	6	2	18-24	4	19	A	1	\$600.00
2003	6	32	18-24	4	19	A	7	\$12,984.00
2003	6	3	18-24	4	19	A	1	\$900.00
2003	6	14	25-34	4	19	A	4	\$6,435.00
2003	7	13	18-24	4	19	A	1	\$6,591.00
2003	7	6	18-24	4	19	A	3	\$2,700.00
2003	7	6	18-24	4	19	A	0	\$2,950.92
2003	7	9	25-34	4	19	A	3	\$2,700.00
2003	7	3	25-34	4	19	A	1	\$900.00
2003	7	10	35-44	4	19	A	1	\$3,000.00
2003	9	3	18-24	4	19	A	1	\$1,521.00
2003	9	5	25-34	4	19	A	2	\$2,400.00
2003	10	21	18-24	4	19	A	6	\$7,821.00
2003	10	4	18-24	4	19	A	1	\$2,028.00
2003	10	1	25-34	4	19	A	1	\$600.00
2003	11	18	18-24	4	19	A	4	\$9,900.00
2003	11	11	25-34	4	19	A	3	\$6,000.00
2003	12	5	18-24	4	19	A	2	\$1,707.00
2003	12	6	18-24	4	19	A	2	\$1,800.00
2003	12	30	25-34	4	19	A	4	\$16,800.00
2003	12	6	25-34	4	19	A	1	\$3,600.00
2003	12	8	35-44	4	19	A	3	\$4,500.00
2004	1	10	18-24	4	19	A	3	\$4,800.00
2004	1	4	18-24	4	19	A	2	\$1,200.00
2004	1	2	25-34	4	19	A	1	\$600.00

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2004	1	14	25-34	4	19	A	2	\$4,200.00
2004	1	5	35-44	4	19	A	1	\$3,000.00
2004	2	21	18-24	4	19	A	5	\$8,880.00
2004	2	19	25-34	4	19	A	3	\$11,400.00
2004	2	6	35-44	4	19	A	2	\$2,700.00
2004	3	9	18-24	4	19	A	2	\$5,400.00
2004	3	40	25-34	4	19	A	7	\$24,850.00
2004	3	4	35-44	4	19	A	1	\$1,200.00
2004	3	3	45-64	4	19	A	1	\$1,800.00
2004	4	11	18-24	4	19	A	3	\$5,400.00
2004	4	4	25-34	4	19	A	2	\$2,586.68
2004	4	6	35-44	4	19	A	1	\$3,600.00
2004	5	14	18-24	4	19	A	4	\$6,900.00
2004	5	8	25-34	4	19	A	3	\$4,800.00
2004	5	1	25-34	4	19	A	1	\$600.00
2004	5	8	35-44	4	19	A	1	\$4,800.00
2004	6	15	18-24	4	19	A	4	\$8,580.00
2004	6	5	25-34	4	19	A	2	\$2,700.00
2004	6	3	35-44	4	19	A	1	\$1,590.00
2004	7	17	18-24	4	19	A	4	\$10,200.00
2004	7	8	25-34	4	19	A	2	\$4,800.00
2004	7	7	35-44	4	19	A	2	\$3,000.00
2004	8	11	18-24	4	19	A	3	\$6,180.00
2004	8	10	18-24	4	19	A	2	\$6,000.00
2004	8	16	25-34	4	19	A	4	\$8,480.00
2004	8	8	25-34	4	19	A	4	\$4,200.00
2004	8	2	25-34	4	19	A	1	\$1,200.00
2004	8	2	45-64	4	19	A	1	\$1,896.89
2004	9	5	18-24	4	19	A	1	\$2,650.00
2004	9	53	18-24	4	19	A	11	\$31,140.00
2004	9	17	25-34	4	19	A	2	\$9,010.00
2004	9	3	25-34	4	19	A	1	\$900.00
2004	9	3	35-44	4	19	A	1	\$1,590.00
2004	9	2	35-44	4	19	A	1	\$1,060.00
2004	10	19	18-24	4	19	A	2	\$10,070.00
2004	10	16	18-24	4	19	A	5	\$8,140.00
2004	10	14	25-34	4	19	A	2	\$7,420.00
2004	10	6	25-34	4	19	A	3	\$3,714.15
2004	10	13	35-44	4	19	A	1	\$7,800.00
2004	11	23	18-24	4	19	A	3	\$12,190.00
2004	11	11	18-24	4	19	A	3	\$4,846.10
2004	11	15	25-34	4	19	A	2	\$7,950.00
2004	11	13	25-34	4	19	A	5	\$7,616.89
2004	11	4	25-34	4	19	A	1	\$2,332.54
2004	12	3	18-24	4	19	A	1	\$1,380.21
2004	12	35	18-24	4	19	A	7	\$18,488.00
2004	12	2	18-24	4	19	A	1	\$1,100.68
2004	12	19	25-34	4	19	A	3	\$9,705.81
2004	12	5	25-34	4	19	A	1	\$3,000.00

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2004	12	3	35-44	4	19	A	1	\$1,800.00
2004	12	3	45-64	4	19	A	1	\$1,800.00
2005	1	57	18-24	4	19	A	12	\$28,360.76
2005	1	63	25-34	4	19	A	12	\$38,094.15
2005	2	73	18-24	4	19	A	13	\$41,078.40
2005	2	34	25-34	4	19	A	6	\$18,433.93
2005	2	6	25-34	4	19	A	1	\$3,840.00
2005	2	10	35-44	4	19	A	2	\$5,033.35
2005	3	26	18-24	4	19	A	7	\$13,473.69
2005	3	1	18-24	4	19	A	1	\$950.97
2005	3	5	18-24	4	19	A	1	\$2,234.79
2005	3	25	25-34	4	19	A	6	\$13,538.41
2005	3	12	25-34	4	19	A	1	\$6,786.92
2005	3	2	25-34	4	19	A	1	\$2,234.79
2005	4	80	18-24	4	19	A	20	\$41,223.03
2005	4	10	18-24	4	19	A	3	\$6,700.00
2005	4	25	25-34	4	19	A	3	\$14,657.10
2005	4	10	35-44	4	19	A	2	\$5,655.77
2005	5	52	18-24	4	19	A	14	\$33,282.51
2005	5	9	18-24	4	19	A	1	\$5,175.00
2005	5	4	25-34	4	19	A	1	\$2,300.00
2005	5	10	25-34	4	19	A	2	\$6,700.00
2005	5	3	25-34	4	19	A	1	\$2,010.00
2005	6	98	18-24	4	19	A	22	\$60,530.00
2005	6	3	18-24	4	19	A	1	\$1,725.00
2005	6	28	25-34	4	19	A	6	\$18,095.00
2005	6	6	25-34	4	19	A	1	\$4,020.00
2005	6	2	25-34	4	19	A	1	\$1,340.00
2005	6	2	35-44	4	19	A	1	\$1,200.00
2005	7	50	18-24	4	19	A	10	\$30,400.51
2005	7	6	18-24	4	19	A	1	\$3,450.00
2005	7	22	25-34	4	19	A	5	\$14,081.53
2005	7	1	25-34	4	19	A	1	\$855.46
2005	7	5	25-34	4	19	A	1	\$2,875.00
2005	7	5	35-44	4	19	A	1	\$3,200.00
2005	7	6	35-44	4	19	A	1	\$3,623.48
2005	8	59	18-24	4	19	A	12	\$36,305.00
2005	8	15	25-34	4	19	A	4	\$9,765.00
2005	8	5	45-64	4	19	A	1	\$2,875.00
2005	9	53	18-24	4	19	A	11	\$31,805.00
2005	9	8	18-24	4	19	A	2	\$5,305.00
2005	9	23	25-34	4	19	A	5	\$13,936.00
2005	9	3	25-34	4	19	A	1	\$1,725.00
2005	10	23	18-24	4	19	A	9	\$13,830.00
2005	10	21	25-34	4	19	A	6	\$13,350.00
2005	10	9	25-34	4	19	A	2	\$5,460.00
2005	11	113	18-24	4	19	A	20	\$66,305.00
2005	11	9	18-24	4	19	A	1	\$5,175.00
2005	11	33	25-34	4	19	A	5	\$19,490.00

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2005	11	3	35-44	4	19	A	1	\$2,010.00
2005	12	65	18-24	4	19	A	11	\$32,934.14
2005	12	38	25-34	4	19	A	6	\$23,275.00
2005	12	8	35-44	4	19	A	2	\$4,940.52
2005	12	7	45-64	4	19	A	1	\$4,025.00
2006	1	78	18-24	4	19	A	16	\$51,479.00
2006	1	5	18-24	4	19	A	1	\$2,875.00
2006	1	41	25-34	4	19	A	8	\$26,928.00
2006	1	6	25-34	4	19	A	1	\$3,840.00
2006	1	8	25-34	4	19	A	2	\$6,272.00
2006	1	6	35-44	4	19	A	2	\$8,224.48
2006	2	7	18-24	4	19	A	1	\$4,025.00
2006	2	141	18-24	4	19	A	28	\$99,547.00
2006	2	16	18-24	4	19	A	2	\$9,200.00
2006	2	3	18-24	4	19	A	1	\$2,496.00
2006	2	65	25-34	4	19	A	12	\$49,008.00
2006	2	6	25-34	4	19	A	1	\$3,450.00
2006	2	4	35-44	4	19	A	2	\$2,752.00
2006	3	81	18-24	4	19	A	10	\$50,111.00
2006	3	8	18-24	4	19	A	1	\$4,600.00
2006	3	35	25-34	4	19	A	7	\$25,265.00
2006	3	6	35-44	4	19	A	1	\$3,450.00
2006	3	8	45-64	4	19	A	1	\$5,013.14
2006	4	91	18-24	4	19	A	15	\$58,945.00
2006	4	5	18-24	4	19	A	1	\$2,875.00
2006	4	12	25-34	4	19	A	2	\$8,956.00
2006	4	3	25-34	4	19	A	1	\$2,496.00
2006	5	88	18-24	4	19	A	12	\$55,417.00
2006	5	8	18-24	4	19	A	1	\$4,600.00
2006	5	28	25-34	4	19	A	5	\$19,955.00
2006	5	2	25-34	4	19	A	1	\$1,280.00
2006	5	7	35-44	4	19	A	2	\$5,600.00
2006	6	132	18-24	4	19	A	21	\$85,666.00
2006	6	30	25-34	4	19	A	6	\$22,904.00
2006	6	6	25-34	4	19	A	1	\$3,450.00
2006	6	3	35-44	4	19	A	1	\$2,496.00
2006	7	7	18-24	4	19	A	1	\$3,945.23
2006	7	60	18-24	4	19	A	9	\$36,556.00
2006	7	4	18-24	4	19	A	1	\$3,328.00
2006	7	3	18-24	4	19	A	1	\$1,725.00
2006	7	30	25-34	4	19	A	6	\$20,077.00
2006	7	8	35-44	4	19	A	3	\$6,399.00
2006	8	79	18-24	4	19	A	16	\$53,791.64
2006	8	26	25-34	4	19	A	5	\$20,604.00
2006	8	12	25-34	4	19	A	2	\$6,900.00
2006	8	4	25-34	4	19	A	1	\$3,328.00
2006	8	5	35-44	4	19	A	1	\$2,875.00
2006	9	88	18-24	4	19	A	12	\$61,270.00
2006	9	20	18-24	4	19	A	2	\$11,500.00

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2006	9	46	25-34	4	19	A	7	\$33,646.00
2006	9	4	25-34	4	19	A	1	\$3,328.00
2006	9	6	35-44	4	19	A	0	\$3,450.00
2006	9	5	35-44	4	19	A	1	\$2,875.00
2006	9	5	45-64	4	19	A	2	\$4,160.00
2006	10	43	18-24	4	19	A	10	\$29,484.00
2006	10	30	18-24	4	19	A	2	\$17,250.00
2006	10	7	25-34	4	19	A	2	\$5,248.00
2006	10	4	25-34	4	19	A	1	\$3,328.00
2006	10	5	35-44	4	19	A	2	\$3,132.00
2006	11	13	18-24	4	19	A	1	\$7,475.00
2006	11	107	18-24	4	19	A	20	\$66,863.00
2006	11	16	18-24	4	19	A	3	\$9,330.00
2006	11	45	25-34	4	19	A	9	\$30,607.00
2006	11	5	25-34	4	19	A	1	\$2,875.00
2006	11	2	35-44	4	19	A	1	\$1,664.00
2006	12	37	18-24	4	19	A	8	\$23,331.00
2006	12	23	25-34	4	19	A	5	\$16,309.00
2006	12	3	35-44	4	19	A	1	\$2,496.00
2007	1	205	18-24	4	19	A	16	\$168,143.42
2007	1	12	18-24	4	19	A	1	\$7,680.00
2007	1	25	25-34	4	19	A	3	\$17,487.20
2007	1	4	35-44	4	19	A	1	\$2,624.00
2007	2	58	18-24	4	19	A	6	\$38,403.80
2007	2	5	18-24	4	19	A	2	\$3,716.80
2007	2	18	18-24	4	19	A	2	\$11,913.60
2007	2	27	25-34	4	19	A	7	\$18,904.00
2007	3	22	18-24	4	19	A	6	\$15,640.00
2007	3	19	18-24	4	19	A	2	\$12,646.40
2007	3	5	18-24	4	19	A	2	\$3,299.20
2007	3	13	25-34	4	19	A	3	\$8,936.00
2007	3	6	25-34	4	19	A	1	\$3,936.00
2007	4	53	18-24	4	19	A	10	\$36,699.20
2007	4	49	18-24	4	19	A	5	\$37,251.20
2007	4	7	18-24	4	19	A	1	\$4,659.20
2007	4	29	25-34	4	19	A	7	\$19,062.40
2007	5	72	18-24	4	19	A	15	\$52,871.30
2007	5	8	18-24	4	19	A	1	\$5,324.80
2007	5	78	25-34	4	19	A	14	\$46,036.00
2007	5	13	25-34	4	19	A	1	\$8,528.00
2007	5	13	25-34	4	19	A	1	\$8,528.00
2007	5	9	35-44	4	19	A	2	\$5,904.00
2007	6	43	18-24	4	19	A	11	\$28,233.60
2007	6	10	18-24	4	19	A	1	\$8,600.00
2007	6	12	18-24	4	19	A	3	\$7,948.80
2007	6	67	25-34	4	19	A	14	\$46,961.60
2007	6	4	25-34	4	19	A	1	\$2,624.00
2007	6	2	25-34	4	19	A	1	\$1,312.00
2007	6	12	35-44	4	19	A	2	\$7,872.00

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2007	7	101	18-24	4	19	A	26	\$68,479.94
2007	7	5	18-24	4	19	A	1	\$4,300.00
2007	7	7	18-24	4	19	A	1	\$4,592.00
2007	7	42	25-34	4	19	A	7	\$29,184.00
2007	7	13	25-34	4	19	A	2	\$8,528.00
2007	7	3	35-44	4	19	A	1	\$2,580.00
2007	8	102	18-24	4	19	A	18	\$70,995.20
2007	8	26	18-24	4	19	A	4	\$18,347.20
2007	8	8	18-24	4	19	A	2	\$5,804.80
2007	8	65	25-34	4	19	A	11	\$45,052.80
2007	8	6	25-34	4	19	A	1	\$5,160.00
2007	8	3	25-34	4	19	A	1	\$1,968.00
2007	8	9	35-44	4	19	A	2	\$6,089.60
2007	9	68	18-24	4	19	A	18	\$48,569.60
2007	9	68	25-34	4	19	A	9	\$45,874.40
2007	9	2	35-44	4	19	A	1	\$1,312.00
2007	10	85	18-24	4	19	A	18	\$57,480.00
2007	10	5	18-24	4	19	A	1	\$3,744.00
2007	10	37	25-34	4	19	A	10	\$27,793.40
2007	10	6	35-44	4	19	A	1	\$3,936.00
2007	11	235	18-24	4	19	A	36	\$155,754.43
2007	11	13	18-24	4	19	A	2	\$8,528.00
2007	11	37	25-34	4	19	A	8	\$24,579.20
2007	11	3	25-34	4	19	A	1	\$1,920.00
2007	11	7	35-44	4	19	A	1	\$4,592.00
2007	11	4	45-64	4	19	A	1	\$3,440.00
2007	12	115	18-24	4	19	A	22	\$80,188.80
2007	12	3	18-24	4	19	A	1	\$2,580.00
2007	12	2	18-24	4	19	A	1	\$1,720.00
2007	12	42	25-34	4	19	A	7	\$27,960.00
2007	12	45	35-44	4	19	A	4	\$29,891.20
2007	12	7	35-44	4	19	A	1	\$4,592.00
2008	1	118	18-24	4	19	A	23	\$85,348.40
2008	1	33	18-24	4	19	A	2	\$28,786.00
2008	1	6	18-24	4	19	A	2	\$3,904.00
2008	1	9	18-24	4	19	A	2	\$6,275.20
2008	1	53	25-34	4	19	A	12	\$37,186.80
2008	1	18	35-44	4	19	A	5	\$12,272.00
2008	2	172	18-24	4	19	A	16	\$119,424.80
2008	2	3	18-24	4	19	A	2	\$2,028.80
2008	2	5	18-24	4	19	A	2	\$4,024.40
2008	2	49	25-34	4	19	A	8	\$32,515.20
2008	2	18	25-34	4	19	A	2	\$12,457.60
2008	2	34	35-44	4	19	A	4	\$28,719.05
2008	2	4	45-64	4	19	A	1	\$2,624.00
2008	3	116	18-24	4	19	A	16	\$86,286.60
2008	3	22	18-24	4	19	A	3	\$14,432.00
2008	3	6	18-24	4	19	A	1	\$4,492.80
2008	3	36	25-34	4	19	A	6	\$24,192.40

FY	FM	Bed Days Raw	Age	Ben Cat Common	MDC	Sponsor Service	Admission Count	Amount Paid
2008	3	28	25-34	4	19	A	1	\$18,368.00
2008	3	28	35-44	4	19	A	4	\$19,510.40
2008	3	5	45-64	4	19	A	1	\$3,200.00
2008	4	61	18-24	4	19	A	14	\$41,192.23
2008	4	20	18-24	4	19	A	1	\$13,120.00
2008	4	40	25-34	4	19	A	5	\$25,984.00
2008	4	12	35-44	4	19	A	2	\$7,872.00
2008	4	33	35-44	4	19	A	1	\$21,648.00
2008	5	166	18-24	4	19	A	21	\$118,431.17
2008	5	20	18-24	4	19	A	1	\$17,780.00
2008	5	6	18-24	4	19	A	1	\$4,427.22
2008	5	127	25-34	4	19	A	15	\$98,400.49
2008	6	127	18-24	4	19	A	21	\$94,729.60
2008	6	4	18-24	4	19	A	1	\$3,200.40
2008	6	5	18-24	4	19	A	1	\$3,689.35
2008	6	128	25-34	4	19	A	12	\$97,096.26
2008	6	6	25-34	4	19	A	1	\$4,427.22
2008	6	7	25-34	4	19	A	1	\$5,165.09
2008	6	124	35-44	4	19	A	4	\$98,839.02
2008	6	7	45-64	4	19	A	1	\$4,480.00
2008	7	195	18-24	4	19	A	27	\$149,343.54
2008	7	12	18-24	4	19	A	1	\$10,668.00
2008	7	4	18-24	4	19	A	2	\$3,209.29
2008	7	19	18-24	4	19	A	3	\$14,161.77
2008	7	62	25-34	4	19	A	12	\$47,766.18
2008	7	18	35-44	4	19	A	4	\$13,806.17
2008	8	243	18-24	4	19	A	29	\$172,311.06
2008	8	6	18-24	4	19	A	1	\$5,334.00
2008	8	64	18-24	4	19	A	1	\$47,223.68
2008	8	86	18-24	4	19	A	1	\$63,456.82
2008	8	105	25-34	4	19	A	18	\$80,730.09
2008	8	60	45-64	4	19	A	1	\$52,273.20
2008	9	138	18-24	4	19	A	21	\$102,515.51
2008	9	51	25-34	4	19	A	13	\$39,524.94
2008	9	2	35-44	4	19	A	1	\$1,475.74
2008	10	129	18-24	4	19	A	20	\$88,451.71
2008	10	14	18-24	4	19	A	2	\$10,330.18
2008	10	2	18-24	4	19	A	1	\$1,600.20
2008	10	71	25-34	4	19	A	10	\$54,135.20
2008	10	25	35-44	4	19	A	3	\$20,260.45
2008	11	134	18-24	4	19	A	21	\$97,880.97
2008	11	14	18-24	4	19	A	2	\$10,765.79
2008	11	41	25-34	4	19	A	9	\$30,483.81
2008	11	24	35-44	4	19	A	1	\$21,336.00
2008	12	153	18-24	4	19	A	24	\$112,598.44
2008	12	3	18-24	4	19	A	1	\$1,720.80
2008	12	7	18-24	4	19	A	1	\$5,165.09
2008	12	35	25-34	4	19	A	9	\$26,608.50

Army Stationing and Installation Plan

FY03 Q2 QUARTERLY LOCKED DATA 20050101

2003 data based on SAMAS/TAAD3 12 JUN 2003, 2004 data based on SAMAS/TAAD3 21 JUL 2004, 2005 data based on SAMAS/TAAD3 20 JUN 2005, 2006 data based on SAMAS/TAAD3 30 JUN 2006, 2007 data based on SAMAS/TAAD3 19 SEP 2007, 2008 data based on SAMAS/TAAD3 JUL 08, 2009-2015 data based on SAMAS 20090108 and TAAD3 20090116 including INCOM, OAC3IM, and O5 review. This product is produced by the OAC3IM ASJP Team (VISTA Technology Services, Inc.). Please provide feedback to the ASJP Team at [redacted] 561-4100 or asjp@vtsatcl.com.

Army Military	Full-Time Military Authorization	Compo 1,2 Typco 1,2,3 # G H J N W Military
PCS Students Military	PCS Student leads - Military	Compo 1, Typco 4 Military
Other Military	Full-Time Equivalent Other Services, KATUSA, and All Other - Military	Compo 1,2 Typco A, K, B Military
Total Full-Time Military	Full-Time Military Authorization, PCS Students and Other Services Military	
TDY Students and Trainees Military	TDY Students and Trainee leads (BT, AT, OSUT, Reception - Military)	Compo 1, Typco 5 E Military
Trentient and Rotational Military	Trentient and Rotational leads - Military	Specific UICs Identified as Trentient and Rotational Military (FY03-Q1 Typco " (FY03-13)
Total Military	Total Full-Time and Part-Time Military	
Army Civilians	Full-Time US Direct Hire Civilian Authorizations	Compo 1,2 Typco 1,2,3 # G H J N W UDO Civilians
Army Local Nationals	Full-Time Other Civilian Authorizations	Compo 1, Typco 4 UDO Civilians
PCS Students Civilian	PCS Student leads - Civilian	Compo 2, Typco C
Contractors	Full-Time Equivalent (FTE) Contractors	Compo 1,2 Typco A, K, B All Civilians
Other Civilians	FTE Other Services, Part-Time, Overhead, NAF, AAFES, etc - Civilian	Compo 1, Typco 5 E UDO Civilians
Total Full-Time Civilian	Total UDO and Other FTE Civilian	Specific UICs Identified as Trentient and Rotational Civilians (FY03-Q1 Typco " (FY03-13)
TDY Students/Civilian	TDY Student leads - Civilian	
Trentient and Rotational Civilian	Trentient and Rotational leads - Civilian	
Total Civilian	Total Full-Time and Part-Time Civilian	
Total Base Population	Sum of all Military and Civilian Population	
Army Reserve Component Military	USAR and ARNG Enlistment Status	Compo 2,3 Typco 1,2,3 N

Region	Base	Category	FY2008	FY2004	FY2006	FY2008	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2016
WEST	FORT CARSON	Army Military	13396	12753	17820	13833	15828	17154	22059	23898	26774	26893	26522	26821	25835
		PCS Students Military	16	16	16	16	16	16	16	16	16	16	16	16	16
		Other Military	218	218	218	127	532	722	578	578	678	578	678	678	578
		Total Full-Time Military	13630	12987	18054	13976	16376	17892	22753	24592	27468	27593	27316	27615	27429
		TDY Students and Trainees Miltz	21	18	17	24	30	26	24	17	17	23	23	23	23
		Trentient and Rotational Military	18	13	12	253	51	173	85	85	85	85	85	85	85
		Total Military	13669	13015	18083	14253	16457	18131	22972	24794	27570	27701	27726	27729	27737
		Army Civilians	1885	1724	1735	1778	1836	1857	1947	2069	2084	2088	2067	2067	2067
		Army Local Nationals	0	0	0	0	0	0	0	0	0	0	0	0	0
		PCS Students Civilian	0	0	0	0	0	0	0	0	0	0	0	0	0
		Contractors	1198	1445	1602	1855	1827	1857	1724	1724	1724	1724	1724	1724	1724
		Other Civilians	1393	1513	1523	1505	1287	1833	1531	1531	1531	1531	1531	1531	1531
		Total Full-Time Civilian	4277	4682	4832	5143	4950	5357	5302	5424	5438	5423	5422	5422	5422
		TDY Students Civilian	0	0	0	0	0	0	0	0	0	0	0	0	0
		Trentient and Rotational Civilian	0	24	24	69	18	47	22	22	22	22	22	22	22
		Total Civilian	4277	4707	4934	5212	4968	5404	5324	5446	5461	5445	5444	5444	5444
		Total Base Population	17946	17722	23017	18465	21465	23535	28196	29150	33031	33146	33169	33167	33181
		Army Reserve Component Military	1251	1142	1049	1075	1142	1142	1454	1456	1455	1455	1417	1417	1417

Enrollment based workload regression for FY04-08

Independent Variable: Enrollment

Dependent Variable: Bed Days

Regression Statistics	
Multiple R	0.172272325
R Square	0.029677754
Adjusted R Square	0.01294806
Standard Error	17.35081675
Observations	60

ANOVA

	df	SS	MS	F	Significance F
Regression	1	534.0511796	534.0511796	1.773956773	0.18810358
Residual	58	17460.94882	301.0508417		
Total	59	17995			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	71.02328132	30.50752041	2.328058143	0.023417987	9.955844814	132.0907178
Enrollment	-0.002241892	0.001683229	-1.331899686	0.18810358	-0.005611241	0.001127457

Fiscal month based regression for FY04-08

Independent Variable: Fiscal Month

Dependent Variable: Bed Days

Regression Statistics	
Multiple R	0.75490921
R Square	0.569887915
Adjusted R Square	0.56247219
Standard Error	65.91871543
Observations	60

ANOVA

	df	SS	MS	F	Significance F
Regression	1	333928.3314	333928.3314	76.84857099	3.22865E-12
Residual	58	252026.0686	4345.277044		
Total	59	585954.4			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	18.01355932	17.23513889	1.045164732	0.30028332	-16.48631926	52.51343791
FM	4.307752153	0.49139735	8.766331672	3.22865E-12	3.324113494	5.291390813

Fiscal month based regression for FY04-07

Independent Variable: Fiscal Month
 Dependent Variable: Bed Days

<i>Regression Statistics</i>	
Multiple R	0.72475474
R Square	0.525269434
Adjusted R Square	0.514949204
Standard Error	44.20606927
Observations	48

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	99461.85739	99461.85739	50.89706805	5.73399E-09
Residual	46	89892.12178	1954.17656		
Total	47	189353.9792			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	35.9751773	12.96322972	2.775170855	0.007949286	9.881549662	62.06880495
FM	3.285877117	0.460579851	7.134218111	5.73399E-09	2.358777976	4.212976258

Appendix B: Personnel Data

Automated Staffing Assessment Model

FT HOOD	CAT 1	CA T2	CA T3	CA T4	CA T5	CA T6		FT HOOD	CA T1	CAT 2	CAT3	CAT4	CAT5	CAT6	
PSYCHIATRIC NURSING UNIT N NESR	0	0	103	110	1	0	"20081 0	214	0	0	0.48130841	0.51401869	0.0046729	0	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	106	82	16	1	"20081 1	205	0	0	0.51707317	0.4	0.07804878	0.00487805	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	99	97	5	0	"20081 2	201	0	0	0.49253731	0.48258706	0.02487562	0	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	58	136	4	1	"20080 1	199	0	0	0.29145729	0.68341709	0.0201005	0.00502513	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	100	86	0	12	"20080 2	198	0	0	0.50505051	0.43434343	0	0.06060606	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	105	96	0	0	"20080 3	201	0	0	0.52238806	0.47761194	0	0	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	131	74	6	2	"20080 4	213	0	0	0.61502347	0.34741784	0.02816901	0.00938967	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	127	83	11	6	"20080 5	227	0	0	0.55947137	0.36563877	0.04845815	0.02643172	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	148	81	4	0	"20080 6	233	0	0	0.63519313	0.34763948	0.01716738	0	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	132	74	0	3	"20080 7	209	0	0	0.63157895	0.35406699	0	0.01435407	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	123	79	0	2	"20080 8	204	0	0	0.60294118	0.3872549	0	0.00980392	1
PSYCHIATRIC NURSING UNIT N NESR	0	0	100	93	0	0	"20080 9	193	0	0	0.51813472	0.48186528	0	0	1
								2497	0	0	6.37215756	5.27586148	0.22149235	0.13048861	
							avg mo	0	0	0	0.53101313	0.43965512	0.0184577	0.01087405	1

FT CARSON							
avg mo bed days	489	489	489.4722	489.4722	489.4722	489.4722	
avg mo acuity	0	0	259.916165	215.19896	9.0345289	5.32254571	489.4722
ANNUAL ACUITY	0	0	3118.99398	2582.38753	108.414347	63.8705485	5873.64
avg ad	17911.6	0	0.01451109	0.01201453	0.0005044	0.00029716	
		0	259.916165	215.19896	9.0345289	5.32254571	489.4722
FY12 proj end state	27322	0	4757.66347	3939.13258	165.373508	97.4271118	

PSY WD #1

TDA PARA(S)

0

PSY WD #1

A. CURRENT / FORECASTED DIRECT / INDIRECT NURSING CARE

X1	17911.56	POPULATION SUPPORTED		
X2	17911.56	POPULATION TO SUPPORT		
			NCH	REQS
X3	0.00	Current Annual # of CAT I Occupied Bed Days	0.000	0.000
X4	0.00	Current Annual # of CAT II Occupied Bed Days	0.000	0.000
X5	1911.55	Current Annual # of CAT III Occupied Bed Days	19371.648	11.133
X6	1582.68	Current Annual # of CAT IV Occupied Bed Days	26731.465	15.363
X7	66.44	Current Annual # of CAT V Occupied Bed Days	1697.336	0.975
X8	39.14	Current Annual # of CAT VI Occupied Bed Days	1685.740	0.969
	3599.812	Annual Totals	49486.189	28.440
	9.85	Daily Avg		
X9	Y	"Y" = Yes "N" = No This is considered a Stand Alone Unit/Ward IF = "Y"		

B. ADDITIONAL NURSING CARE WORKLOAD (If Appropriate)

X10	0	Annual Minutes of Service for Observation Patient
X11	0	Annual Hours Spent on Patient Escort/Transport

C. STAFF RELATED - EDUCATION / TRAINING

X12	0	(Preceptorship Prg) Annual Number of New 2nd LT's
X13	7	Annual Number of Staff Orientees
X14	18	Number of RN's / LPN's Assigned (CEU's)
X15	0	(RN 5-7-9 Prg) Annual Number of RN's In Training

D. READINESS

X16	0	Baseline TDA Authorized Military Officers
X17	0	Baseline TDA Authorized Military Enlisted

MANPOWER EQUATION APPLICATION

A. FORECASTED WMNS NUR CARE	RATIO	OBD	NCH	COMMENT	STAFF
= (((X3 * 7 * 7.5) / 60) * 1.689) / X18	1.000	0	0.000		0.000 CAT I
= (((X4 * 22 * 7.5) / 60) * 1.689) / X18	1.000	0	0.000		0.000 CAT II
= (((X5 * 48 * 7.5) / 60) * 1.689) / X18	1.000	1912	19371.648		11.133 CAT III
= (((X6 * 80 * 7.5) / 60) * 1.689) / X18	1.000	1583	26731.465		15.363 CAT IV
= (((X7 * 121 * 7.5) / 60) * 1.689) / X18	1.000	66	1697.336		0.975 CAT V
= (((X8 * 204 * 7.5) / 60) * 1.689) / X18	1.000	39	1685.740		0.969 CAT VI
		3600	49486.189	TOTAL	28.440

= IF (X9 = "Y",3) 1 3.000 MANAGEMENT / ADMIN

B. = (X10 / 60) / X18	0.000	PATIENT OBSERVATION
= (X11 / X18)	0.000	PATIENT ESCORT/TRANSPORT
C. = (((X12 * 19.333) + (X13 * 4) + (X14 * 1.75) + (X15 * 19.333)) * 12) / X18	0.410	TRG PRGS, ORIENT, CONT EDU
D. = ((X16 * 90) + (X17 * 90)) / X18	0.000	READINESS
E. = (X19 * 1.5 * 4.348 * 12) / X18	0.000	LN ADJUST
F. = (X20 + X21) / X18	0.000	OTHER ANNUAL HOURS
TOTAL	0.410	

TOTAL(S)	28.851
MANAGEMENT/ADMIN	3.000
GRAND TOTAL(S)	31.851
GRAND TOTAL(S) <12 or >12	31.851
ROUNDED	32.0

RECOMMENDED BREAKOUT:

RN	PARA	LPN	IA / ADMIN	TOTAL
38.0%	62%	30.0%	70%	
12.2	19.8	6.0	13.9	32.0

RECOMMENDED STAFF PER SHIFT:

	DAYS	EVENINGS	NIGHTS	TOTAL
	45.0%	35.0%	20.0%	100%
RN	5.5	4.3	2.4	12.2
LPN/NA/ADM	8.9	6.9	4.0	19.8
				32.0

COMMENTS

NOTE: IAW THE WORKLOAD MANAGEMENT SYSTEM FOR NURSING, FM 8-501

NOTE: FORECAST RATIO = (X3 POPULATION TO SUPPORT / X2 POPULATION SUPPORTED) ; OBD FORECASTED = (Current OBI
1 PSY HD NUR, MEN HLTH NCO, MED SPT (OA)

Fort Hood Inpatient Behavioral Health Unit MEPRS Data

FY	FM	MEPRS3 Code Description	MEPRS3 Code	Available Admin FTEs	Available Clinician FTEs	Available Para-Prof FTEs	Available Prof FTEs	Available RN FTEs	Available Total FTEs	Bed Days
2001	1	COST POOLS	AFX	0	0	0	0	0	0	0
2001	2	COST POOLS	AFX	0	0	0	0	0	0	0
2001	3	COST POOLS	AFX	0	0	0	0	0	0	0
2001	4	COST POOLS	AFX	0	0	0	0	0	0	0
2001	5	COST POOLS	AFX	0	0	0	0	0	0	0
2001	6	COST POOLS	AFX	0	0	0	0	0	0	0
2001	7	COST POOLS	AFX	0	0	0	0	0	0	0
2001	8	COST POOLS	AFX	0	0	0	0	0	0	0
2001	9	COST POOLS	AFX	0	0	0	0	0	0	0
2001	10	COST POOLS	AFX	0	0	0	0	0	0	0
2001	11	COST POOLS	AFX	0	0	0	0	0	0	0
2001	12	COST POOLS	AFX	0	0	0	0	0	0	0
2002	1	COST POOLS	AFX	0	0	0	0	0	0	0
2002	2	COST POOLS	AFX	0	0	0	0	0	0	0
2002	3	COST POOLS	AFX	0	0	0	0	0	0	0
2002	4	COST POOLS	AFX	0	0	0	0	0	0	0
2002	5	COST POOLS	AFX	0	0	0	0	0	0	0
2002	6	COST POOLS	AFX	0	0	0	0	0	0	0
2002	7	COST POOLS	AFX	0	0	0	0	0	0	0
2002	8	COST POOLS	AFX	0	0	0	0	0	0	0
2002	9	COST POOLS	AFX	0	0	0	0	0	0	0
2002	10	COST POOLS	AFX	0	0	0	0	0	0	0
2002	11	COST POOLS	AFX	0	0	0	0	0	0	0
2002	12	COST POOLS	AFX	0	0	0	0	0	0	0
2003	1	COST POOLS	AFX	0	0	0	0	0	0	0
2003	2	COST POOLS	AFX	0	0	0	0	0	0	0
2003	3	COST POOLS	AFX	0	0	0	0	0	0	0
2003	4	COST POOLS	AFX	0	0	0	0	0	0	0
2003	5	COST POOLS	AFX	0	0	0	0	0	0	0
2003	6	COST POOLS	AFX	0	0	0	0	0	0	0
2003	7	COST POOLS	AFX	0	0	0	0	0	0	0
2003	8	COST POOLS	AFX	0	0	0	0	0	0	0
2003	9	COST POOLS	AFX	0	0	0	0	0	0	0
2003	10	COST POOLS	AFX	0	0	0	0	0	0	0
2003	11	COST POOLS	AFX	0	0	0	0	0	0	0
2003	12	COST POOLS	AFX	0	0	0	0	0	0	0
2004	1	COST POOLS	AFX	0	0	0	0	0	0	0
2004	2	COST POOLS	AFX	0	0	0	0	0	0	0
2004	3	COST POOLS	AFX	0	0	0	0	0	0	0
2004	4	COST POOLS	AFX	0	0	0	0	0	0	0
2004	5	COST POOLS	AFX	0	0	0	0	0	0	0
2004	6	COST POOLS	AFX	0	0	0	0	0	0	0
2004	7	COST POOLS	AFX	0	0	0	0	0	0	0
2004	8	COST POOLS	AFX	0	0	0	0	0	0	0
2004	9	COST POOLS	AFX	0	0	0	0	0	0	0
2004	10	COST POOLS	AFX	0	0	0	0	0	0	0
2004	11	COST POOLS	AFX	0	0	0	0	0	0	0
2004	12	COST POOLS	AFX	0	0	0	0	0	0	0
2005	1	COST POOLS	AFX	0	0	0	0	0	0	0
2005	2	COST POOLS	AFX	0	0	0	0	0	0	0
2005	3	COST POOLS	AFX	0	0	0	0	0	0	0
2005	4	COST POOLS	AFX	0	0	0	0	0	0	0
2005	5	COST POOLS	AFX	0	0	0	0	0	0	0
2005	6	COST POOLS	AFX	0	0	0	0	0	0	0
2005	7	COST POOLS	AFX	0	0	0	0	0	0	0
2005	8	COST POOLS	AFX	0	0	0	0	0	0	0
2005	9	COST POOLS	AFX	0	0	0	0	0	0	0
2005	10	COST POOLS	AFX	0	0	0	0	0	0	0
2005	11	COST POOLS	AFX	0	0	0	0	0	0	0
2005	12	COST POOLS	AFX	0	0	0	0	0	0	0

FY	FM	MEPRS3 Code Description	MEPRS3 Code	Available Admin FTEs	Available Clinician FTEs	Available Para-Prof FTEs	Available Prof FTEs	Available RN FTEs	Available Total FTEs	Bed Days
2006	1	COST POOLS	AFX	0	0	0	0	0	0	0
2006	2	COST POOLS	AFX	0	0	0	0	0	0	0
2006	3	COST POOLS	AFX	0	0	0	0	0	0	0
2006	4	COST POOLS	AFX	0	0	0	0	0	0	0
2006	5	COST POOLS	AFX	0	0	0	0	0	0	0
2006	6	COST POOLS	AFX	0	0	0	0	0	0	0
2006	7	COST POOLS	AFX	0	0	0	0	0	0	0
2006	8	COST POOLS	AFX	0	0	0	0	0	0	0
2006	9	COST POOLS	AFX	0	0	0	0	0	0	0
2006	10	COST POOLS	AFX	0	0	0	0	0	0	0
2006	11	COST POOLS	AFX	0	0	0	0	0	0	0
2006	12	COST POOLS	AFX	0	0	0	0	0	0	0
2007	1	COST POOLS	AFX	0	0	0	0	0	0	0
2007	2	COST POOLS	AFX	0	0	0	0	0	0	0
2007	3	COST POOLS	AFX	0	0	0	0	0	0	0
2007	4	COST POOLS	AFX	0	0	0	0	0	0	0
2007	5	COST POOLS	AFX	0	0	0	0	0	0	0
2007	6	COST POOLS	AFX	0	0	0	0	0	0	0
2007	7	COST POOLS	AFX	0	0	0	0	0	0	0
2007	8	COST POOLS	AFX	0	0	0	0	0	0	0
2007	9	COST POOLS	AFX	0	0	0	0	0	0	0
2007	10	COST POOLS	AFX	0	0	0	0	0	0	0
2007	11	COST POOLS	AFX	0	0	0	0	0	0	0
2007	12	COST POOLS	AFX	0	0	0	0	0	0	0
2008	1	COST POOLS	AFX	0	0	0	0	0	0	0
2008	2	COST POOLS	AFX	0	0	0	0	0	0	0
2008	3	COST POOLS	AFX	0	0	0	0	0	0	0
2008	4	COST POOLS	AFX	0	0	0	0	0	0	0
2008	5	COST POOLS	AFX	0	0	0	0	0	0	0
2008	6	COST POOLS	AFX	0	0	0	0	0	0	0
2008	7	COST POOLS	AFX	0	0	0	0	0	0	0
2008	8	COST POOLS	AFX	0	0	0	0	0	0	0
2008	9	COST POOLS	AFX	0	0	0	0	0	0	0
2008	10	COST POOLS	AFX	0	0	0	0	0	0	0
2008	11	COST POOLS	AFX	0	0	0	0	0	0	0
2008	12	COST POOLS	AFX	0	0	0	0	0	0	0
2009	1	COST POOLS	AFX	0	0	0	0	0	0	0
2009	2	COST POOLS	AFX	0	0	0	0	0	0	0
2009	3	COST POOLS	AFX	0	0	0	0	0	0	0
2009	4	COST POOLS	AFX	0	0	0	0	0	0	0
2009	5	COST POOLS	AFX	0	0	0	0	0	0	0
2001	1	PSYCHIATRY	AFA	1	0.5	8.4	0	8.05	17.95	206
2001	2	PSYCHIATRY	AFA	0.9	1.31	7.4	0	7.47	17.08	223
2001	3	PSYCHIATRY	AFA	0.7	1.44	7.51	0	8.07	17.72	235
2001	4	PSYCHIATRY	AFA	0.9	1.25	11.37	0	7.36	20.88	268
2001	5	PSYCHIATRY	AFA	1.32	1.33	10.34	0	8.24	21.23	212
2001	6	PSYCHIATRY	AFA	2.1	1.21	11.16	0	10.4	24.87	256
2001	7	PSYCHIATRY	AFA	2	1.19	10.94	0	9.82	23.95	208
2001	8	PSYCHIATRY	AFA	2.14	1.4	11.66	0	10.03	25.23	253
2001	9	PSYCHIATRY	AFA	2	1.01	11.96	0	9	23.97	255
2001	10	PSYCHIATRY	AFA	1.86	0.32	13.92	0	9.1	25.2	342
2001	11	PSYCHIATRY	AFA	1.19	1.75	11.72	0	8.34	23	254
2001	12	PSYCHIATRY	AFA	1.66	1.49	12.86	0	7.99	24	281
2002	1	PSYCHIATRY	AFA	0.9	1.47	11.48	0	7.06	20.91	228
2002	2	PSYCHIATRY	AFA	1.14	1.52	13.51	0	6.73	22.9	323
2002	3	PSYCHIATRY	AFA	2	1.39	15.62	0	7	26.01	341
2002	4	PSYCHIATRY	AFA	1.43	1.48	13.54	0	7.65	24.1	345
2002	5	PSYCHIATRY	AFA	0.81	1.44	11.62	0	6.28	20.15	266
2002	6	PSYCHIATRY	AFA	1.19	1.15	12.73	0	6.86	21.93	339
2002	7	PSYCHIATRY	AFA	1.1	1.7	12.84	0	7.06	22.7	364
2002	8	PSYCHIATRY	AFA	1.43	1.19	14.65	0	8.27	25.54	336
2002	9	PSYCHIATRY	AFA	1.9	1.88	14.5	0.71	7.72	26.71	324

FY	FM	MEPRS3 Code Description	MEPRS3 Code	Available Admin FTEs	Available Clinician FTEs	Available Para-Prof FTEs	Available Prof FTEs	Available RN FTEs	Available Total FTEs	Bed Days
2002	10	PSYCHIATRY	AFA	1	1.1	15.28	1	8.64	27.02	303
2002	11	PSYCHIATRY	AFA	0.86	1.87	12.53	1	9.32	25.58	342
2002	12	PSYCHIATRY	AFA	0.94	1.22	12.12	0.87	8.2	23.35	337
2003	1	PSYCHIATRY	AFA	1.1	0.58	14.57	0	10.4	26.65	329
2003	2	PSYCHIATRY	AFA	1	1.43	14.07	0	10.02	26.52	270
2003	3	PSYCHIATRY	AFA	0	0.85	14.27	0	10.47	25.59	174
2003	4	PSYCHIATRY	AFA	0	0.94	13.96	0	10.85	25.75	288
2003	5	PSYCHIATRY	AFA	0	0.85	11.88	0	8.79	21.52	243
2003	6	PSYCHIATRY	AFA	0	0.94	12	0	8	20.94	235
2003	7	PSYCHIATRY	AFA	0.8	1.4	12.48	0	8.32	23	210
2003	8	PSYCHIATRY	AFA	1.04	0.83	12.24	0	8.32	22.43	226
2003	9	PSYCHIATRY	AFA	0.98	0.96	10.78	0	7.84	20.56	145
2003	10	PSYCHIATRY	AFA	1.1	0.99	12.45	0	8.63	23.17	152
2003	11	PSYCHIATRY	AFA	0.93	0.95	13.58	0	9.02	24.48	168
2003	12	PSYCHIATRY	AFA	0.83	0.7	14.11	0	8.98	24.62	195
2004	1	PSYCHIATRY	AFA	0.99	1.56	15.73	0	8.69	26.97	119
2004	2	PSYCHIATRY	AFA	0.72	0.7	12.47	0	7.02	20.91	124
2004	3	PSYCHIATRY	AFA	0.73	0.14	11.53	0	7.29	19.69	105
2004	4	PSYCHIATRY	AFA	0.82	0.84	11.5	0	7.39	20.55	176
2004	5	PSYCHIATRY	AFA	0.84	1.31	11.74	0	7.85	21.74	135
2004	6	PSYCHIATRY	AFA	1.06	1.53	12.18	0	8.78	23.55	157
2004	7	PSYCHIATRY	AFA	0.95	1.54	13.45	0	7.36	23.3	139
2004	8	PSYCHIATRY	AFA	0.86	1.94	12.78	0	7.67	23.25	139
2004	9	PSYCHIATRY	AFA	0.94	1.26	11.43	0	8.23	21.86	95
2004	10	PSYCHIATRY	AFA	0.94	0.94	11.6	0	8.44	21.92	198
2004	11	PSYCHIATRY	AFA	0.95	0.81	11.49	0	8.57	21.82	210
2004	12	PSYCHIATRY	AFA	0.81	1.15	10.14	0	8.13	20.23	157
2005	1	PSYCHIATRY	AFA	0.93	0.28	10.52	0	7.33	19.06	161
2005	2	PSYCHIATRY	AFA	0.88	0.68	7.69	0	7.24	16.49	149
2005	3	PSYCHIATRY	AFA	0.74	0.18	6.32	0	6.11	13.35	140
2005	4	PSYCHIATRY	AFA	0.86	0.37	10.04	0	8.06	19.33	203
2005	5	PSYCHIATRY	AFA	0.78	0.8	10.38	0	7	18.96	206
2005	6	PSYCHIATRY	AFA	1.04	2.22	12.19	0	8.41	23.86	164
2005	7	PSYCHIATRY	AFA	0.99	1.04	11.21	0	7.04	20.28	179
2005	8	PSYCHIATRY	AFA	0.92	0	10.93	0	7.76	19.61	230
2005	9	PSYCHIATRY	AFA	0.81	0.02	8.56	0	6.69	16.08	195
2005	10	PSYCHIATRY	AFA	0.63	0.04	9.96	0	6.5	17.13	221
2005	11	PSYCHIATRY	AFA	1.1	0.33	10.4	0.3	8.7	20.83	186
2005	12	PSYCHIATRY	AFA	0.89	0.63	10.7	0	7.55	19.77	168
2006	1	PSYCHIATRY	AFA	1.38	1.49	10.76	0	7.94	21.57	133
2006	2	PSYCHIATRY	AFA	0.83	0.88	15.37	0.84	12.75	30.67	123
2006	3	PSYCHIATRY	AFA	1.02	1.62	12.9	0.12	8.84	24.5	153
2006	4	PSYCHIATRY	AFA	0.91	1.26	12	0	8.94	23.11	165
2006	5	PSYCHIATRY	AFA	0.87	0.7	11.63	0	8.31	21.51	163
2006	6	PSYCHIATRY	AFA	0.82	1.16	9.41	0	6.98	18.37	91
2006	7	PSYCHIATRY	AFA	0.85	1.63	12.69	0	7.84	23.01	185
2006	8	PSYCHIATRY	AFA	1.01	2.56	11.03	0	6.74	21.34	150
2006	9	PSYCHIATRY	AFA	0.81	1.14	11.14	0	7.23	20.32	151
2006	10	PSYCHIATRY	AFA	0.52	1.95	13.45	0.74	6.83	23.49	172
2006	11	PSYCHIATRY	AFA	1.1	1.29	13.73	0.33	8.93	25.38	152
2006	12	PSYCHIATRY	AFA	0.95	0.98	13.47	0	8.65	24.05	175
2007	1	PSYCHIATRY	AFA	1	1.61	12.98	0.17	8.24	24	198
2007	2	PSYCHIATRY	AFA	0.87	1	11.68	0	7.87	21.42	128
2007	3	PSYCHIATRY	AFA	0.86	1	12.04	0	7.34	21.24	117
2007	4	PSYCHIATRY	AFA	0.81	1.03	11.65	0	8.33	21.82	154
2007	5	PSYCHIATRY	AFA	0.89	1.02	10.79	0.4	6.48	19.58	192
2007	6	PSYCHIATRY	AFA	1.01	1.11	11.26	0.49	6.48	20.35	217
2007	7	PSYCHIATRY	AFA	0.9	1.84	12.4	0.04	6.85	22.03	246
2007	8	PSYCHIATRY	AFA	1.04	2.99	13.26	0	7.77	25.06	425
2007	9	PSYCHIATRY	AFA	0.93	1.57	13.1	0	7.62	23.22	238
2007	10	PSYCHIATRY	AFA	0.91	2.96	11.55	0	7.02	22.44	301
2007	11	PSYCHIATRY	AFA	1.05	2.21	15.1	0	7.06	25.42	279

FY	FM	MEPRS3 Code Description	MEPRS3 Code	Available Admin FTEs	Available Clinician FTEs	Available Para-Prof FTEs	Available Prof FTEs	Available RN FTEs	Available Total FTEs	Bed Days
2007	12	PSYCHIATRY	AFA	0.92	1.82	12.35	0.63	6.08	21.8	220
2008	1	PSYCHIATRY	AFA	0.91	2.13	14.39	0.17	5.66	23.26	222
2008	2	PSYCHIATRY	AFA	0.5	1.69	13.03	0.17	5.58	20.97	232
2008	3	PSYCHIATRY	AFA	0.68	1.59	13.8	0.5	6.93	23.5	219
2008	4	PSYCHIATRY	AFA	0.81	1.57	13.79	0.27	8.29	24.73	217
2008	5	PSYCHIATRY	AFA	1.72	1.6	12.76	0	6.76	22.84	188
2008	6	PSYCHIATRY	AFA	1.61	1.66	12.49	0	7.83	23.59	289
2008	7	PSYCHIATRY	AFA	1.15	1.64	12.68	0.6	9.38	25.45	287
2008	8	PSYCHIATRY	AFA	1.33	1.89	13.72	0.63	9.35	26.92	223
2008	9	PSYCHIATRY	AFA	1.26	1.81	14.29	0	9.15	26.51	223
2008	10	PSYCHIATRY	AFA	0.93	2.09	15.22	0.63	8.56	27.43	239
2008	11	PSYCHIATRY	AFA	1.23	1.96	12.76	0	9.21	25.16	282
2008	12	PSYCHIATRY	AFA	0.97	3.17	13.02	0.72	9.18	27.06	236

Personnel Cost Data (Retrieved 30 May 09 from www.salary.com)

Psychiatrist - Colorado Springs, CO 80913

Benefit	Median Amount	% of Total
Base Salary	\$175,449	73.4%
Bonuses	\$7,964	3.3%
Social Security	\$9,296	3.9%
401k / 403b	\$6,639	2.8%
Disability	\$1,844	0.8%
Healthcare	\$5,722	2.4%
Pension	\$8,483	3.5%
Time Off	\$24,116	10.0%
Total	\$240,512	100%

Psychologist - Colorado Springs, CO 80913

Benefit	Median Amount	% of Total
Base Salary	\$76,939	71.7%
Bonuses	\$1,200	1.1%
Social Security	\$5,978	5.6%
401k / 403b	\$2,813	2.6%
Disability	\$781	0.7%
Healthcare	\$5,722	5.3%
Pension	\$3,594	3.4%
Time Off	\$10,218	9.5%
Total	\$107,246	100%

Head Nurse - Psychiatric Unit - Colorado Springs, CO 80913

Benefit	Median Amount	% of Total
Base Salary	\$83,043	72.3%
Bonuses	\$927	0.8%
Social Security	\$6,424	5.6%
401k / 403b	\$3,023	2.6%
Disability	\$840	0.7%
Healthcare	\$5,722	5.0%
Pension	\$3,863	3.4%
Time Off	\$10,981	9.6%
Total	\$114,822	100%

Staff Nurse - RN - Psychiatric Unit - Colorado Springs, CO 80913

Benefit	Median Amount	% of Total
Base Salary	\$60,543	71.7%
Bonuses	\$46	0.1%
Social Security	\$4,635	5.5%
401k / 403b	\$2,181	2.6%
Disability	\$606	0.7%
Healthcare	\$5,722	6.8%
Pension	\$2,787	3.3%
Time Off	\$7,923	9.4%
Total	\$84,443	100%

Licensed Practical Nurse - Colorado Springs, CO 80913

Benefit	Median Amount	% of Total
Base Salary	\$38,675	69.0%
Bonuses	\$46	0.1%
Social Security	\$2,962	5.3%
401k / 403b	\$1,394	2.5%
Disability	\$387	0.7%
Healthcare	\$5,722	10.2%
Pension	\$1,781	3.2%
Time Off	\$5,064	9.0%
Total	\$56,031	100%

Psychiatric Technician - Colorado Springs, CO 80913

Benefit	Median Amount	% of Total
Base Salary	\$27,908	66.3%
Bonuses	\$67	0.2%
Social Security	\$2,140	5.1%
401k / 403b	\$1,007	2.4%
Disability	\$280	0.7%
Healthcare	\$5,722	13.6%
Pension	\$1,287	3.1%
Time Off	\$3,658	8.7%
Total	\$42,069	100%

Medical Secretary - Colorado Springs, CO 80913

Benefit	Median Amount	% of Total
Base Salary	\$32,065	67.6%
Bonuses	\$39	0.1%
Social Security	\$2,456	5.2%
401k / 403b	\$1,156	2.4%
Disability	\$321	0.7%
Healthcare	\$5,722	12.1%
Pension	\$1,477	3.1%
Time Off	\$4,198	8.9%
Total	\$47,434	100%

Appendix C: Financial Projections

Financial Projection Formulas

1A	B	C	D	E	F	G	H
2	Proposal Implementation Financial Projection Formulas						
3		FY08	FY09	FY10	FY11	FY12	FY13
4	Personnel	=2052877/12	2052877	2052877	2052877	2052877	2052877
5	Ancillary		407017	407017	407017	407017	407017
6	Overhead		1158911	1158911	1158911	1158911	1158911
7	Facility Construction	4584013					
8	Total Costs	=SUM(C4:C7)	=SUM(D4:D7)	=SUM(E4:E7)	=SUM(F4:F7)	=SUM(G4:G7)	=SUM(H4:H7)
9							
10	Reimbursement	0	=3107*492	=3107*492	=3107*492	=3107*492	=3107*492
11							
12	Yearly Cash Flow	=C10-C8	=D10-D8	=E10-E8	=F10-F8	=G10-G8	=H10-H8
13	NPV	=C12	=PV(0.016,1,,-D12)	=PV(0.016,1,,-E12)	=PV(0.016,1,,-F12)	=PV(0.016,1,,-G12)	=PV(0.016,1,,-H12)
14							
15	Total NPV	=SUM(C13:H13)					
16							
17	Incremental Impacts Financial Projection Formulas						
18		FY08	FY09	FY10	FY11	FY12	FY13
19	Personnel	=2052877/12	2052877	2052877	2052877	2052877	2052877
20	Ancillary		407017	407017	407017	407017	407017
21	Overhead		1158911	1158911	1158911	1158911	1158911
22	Facility Construction	4584013					
23	Total Costs	=SUM(C19:C22)	=SUM(D19:D22)	=SUM(E19:E22)	=SUM(F19:F22)	=SUM(G19:G22)	=SUM(H19:H22)
24							
25	Reimbursement	0	=3107*775	=3107*775	=3107*775	=3107*775	=3107*775
26							
27	Yearly Cash Flow	=C25-C23	=D25-D23	=E25-E23	=F25-F23	=G25-G23	=H25-H23
28	NPV	=C27	=PV(0.016,1,,-D27)	=PV(0.016,2,,-E27)	=PV(0.016,3,,-F27)	=PV(0.016,4,,-G27)	=PV(0.016,5,,-H27)
	Cash Flow NPV	=SUM(D28:H28)					
	Total NPV	=SUM(C28:H28)					

Modified Internal Rate of Return (MIRR) Formulas

Global Impact						
	FY08	FY09	FY10	FY11	FY12	FY13
Cash Outflows	4755086	3618805	3618805	3618805	3618805	3618805
Cash Inflows		2407925	2407925	2407925	2407925	2407925
FV of Cash Inflows		=FV(0.016,4,,-C4)	=FV(0.016,3,,-D4)	=FV(0.016,2,,-E4)	=FV(0.016,1,,-F4)	=G4
NPV (Cash Outflows)	=B3+NPV(0.016,C3:G3)					
NFV (Cash Inflows)	=SUM(C5:G5)					
n	5					
MIRR =	$\left(\sqrt[n]{\frac{NFV\ (Cash\ Inflows)}{NPV\ (Cash\ Outflows)}} \right) - 1$			$\left(\sqrt[5]{\frac{12,431,106}{22,012,013}} \right) - 1$		
MIRR =	=((B8/B7)^(1/B10))-1					

MTF Impact						
	FY08	FY09	FY10	FY11	FY12	FY13
Cash Outflows	4755086	3618805	3618805	3618805	3618805	3618805
Cash Inflows		1528644	1528644	1528644	1528644	1528644
FV of Cash Inflows		=FV(0.016,4,,-C4)	=FV(0.016,3,,-D4)	=FV(0.016,2,,-E4)	=FV(0.016,1,,-F4)	=G4
NPV (Cash Outflows)	=B3+NPV(0.016,C3:G3)					
NFV (Cash Inflows)	=SUM(C5:G5)					
n	5					
MIRR =	$\left(\sqrt[n]{\frac{NFV\ (Cash\ Inflows)}{NPV\ (Cash\ Outflows)}}\right)-1$			$\left(\sqrt[5]{\frac{7,891,747}{22,012,013}}\right)-1$		
MIRR =	=((B8/B7)^(1/B10))-1					

Appendix D: Facilities

DoD Space Planning Criteria

2.1

DoD Space Planning Criteria for Health Facilities General Administration

2.1.1 PURPOSE AND SCOPE:

This Chapter provides guidance for the planning of the administrative activities in DoD medical facilities. General Administration includes: Command Suite, office and office support space for key personnel, Medical Readiness, administrative support spaces, lobby areas, general staff (see definitions below) spaces, mailrooms and administrative conference rooms.

2.1.2 DEFINITIONS:

Ambulatory Health Care Center: An outpatient clinic with surgical suites providing general anesthesia surgical procedures to patients that will not stay in the facility overnight (or have a less than 24 hour stay).

Administrative Personnel: Administrative personnel are all personnel who do not counsel, diagnosis, examine or treat patients, but who do work that is essential for the accomplishment of the missions of a medical treatment facility. This does include military (assigned and borrowed), contract and civilian personnel. It does not include volunteers.

Commander: The Commander is the person in command or in charge of the unit. This is a typical designation used in Service hospitals and is equivalent to the "Commanding Officer". This title is a designation conferred by written military orders and carries legal responsibilities. If the Commander is a general officer, then he or she is referred to as the "Commanding General."

Command Suite: The location of the office of the Commander and the Commander's supporting staff.

Clinical Staff: The clinical staff is composed of those healthcare personnel who diagnose or treat patients, whose profession is licensed by a professional group and whose scope of practice is subject to credentials from the medical treatment facility.

Full-Time Equivalent (FTE): A work force equivalent to one individual working full time for a specific period, which may be made up of several part-time individuals or one full-time individual. This will include everyone working in the facility; military, civilian and contractor personnel.

Free Standing Clinic: An outpatient clinic, which occupies a building or part of a building, but is not physically located with a hospital or medical center. This designation includes a clinic building with ambulatory surgery services.

General Administration: Administrative functions include: The office of the Commander and the Commander's immediate staff, Nursing Administration, Resource Management (Comptroller functions), Personnel, Readiness (Air Force = Medical Readiness, Army = Plans, Training, Mobilization and Security and Navy = Plans, Operations, Medical Intelligence). General administrative staff also includes administrative personnel (clerks, secretaries, administrator and anyone whose primary responsibilities are administrative in nature (not clinical)) who work in any department, section or service of a medical treatment facility.

Hospital: A healthcare facility, which includes surgical suites and inpatient services to patients who are admitted for more than a 24-hour stay. A hospital will also normally contain clinics, which provide ambulatory patient services to patients who are not admitted as an inpatient.

2.1

DoD Space Planning Criteria for Health Facilities

General Administration

Key Personnel: The following key leadership positions in each Service are normally located within the Command Suite. This list is a sample of the most common key personnel by Service. This is not inclusive of all positions. It is the responsibility of each Service to determine their key personnel per staff document.

ARMY	NAVY	AIR FORCE
Commander Deputy Commander for Administration Deputy Commander for Clinical Service Director of Nursing or Chief Nurse Troop Commander Troop Command Sgt. Major Command Sergeant. Major	Commander Officer in Charge Deputy Commander Director of Nursing Director of Surgery Director of Medical Administration Director of Ancillary Services Command Master Chief	Commander Deputy Commander Squadron Commander Administrator Chief Nurse Chief Hospital Services Senior Enlisted Advisor First Sergeant

Medical Center: A medical center is a Service designation for a type of hospital. Generally, medical centers have a Graduate Medical Education (GME) mission.

Medical Treatment Facility (MTF): Any Army, Navy or Air Force fixed structure where DoD healthcare beneficiaries are provided with healthcare or preventive medicine services.

Noncommissioned Officer In Charge (NCOIC), Leading Chief Petty Officer (LCPO), Leading Petty Officer (LPO): These individuals are the senior enlisted person who typically has responsibility of overseeing other enlisted personnel in a unit. Usually, there is one per department or area requiring a private office for counseling.

Office: A private office is an enclosed room outfitted with either standard furniture (Room Code OFA01) or systems furniture (Room Code OFA02). An administrative cubicle is within an open room and is constructed out of system furniture (Room Code OFA03).

Tricare Regional Office (TRO): This office is responsible for administering a TRICARE Health Service Region. The TRO may also be the Commander of a major medical facility located in the area. The office functions as the focal point for health services and collaborates with the other military treatment facility commanders within the region to develop an integrated plan for the delivery of healthcare for beneficiaries.

2.1

DoD Space Planning Criteria for Health Facilities

General Administration

Personnel Equivalents: Use this chart to determine officer or officer equivalents.

Military Grade Group	Senior Executive Service	Merit Pay Employee	General Schedule	Wages System
O-7 through O-10	SES-1 through SES-6		GS-16 through GS-18	
O-6		GM-15	GS-15	
O-5		GM-13 and GM-14	GS-13 through GS 14	WS-14 through WS-19 WL-15 and Production Support Equivalents
O-4			GS-12	
O-3			GS-10 and GS-11	
O-2; W-3 and W-4			GS-8 and GS-9	WS-8 through WS-12 WL-6 through WL-14 WG-12 through WG-15 and Product support Equivalents
O-1; W-1 and W-2			GS-7	
E-7 through E-9			GS-6	WS-1 through WS-7 WL-1 through WL-5 WG-9 through WG-11
E-5 and E-6			GS-5	
E-4			GS-4	
E-1 through E-3			GS-1 through GS-3	WG-1 through WG-8

Note: O = Officer; W = Warrant Officer; E = Enlisted; GM = General Management (civilian); WS = Wage Supervisor; WL = Wage Leader; WG = Wage Grade

2.1.3 POLICIES:

Auditoriums: An auditorium sized to seat 300, will be programmed into each medical center. Auditoriums will not normally be programmed in clinics. Separate validation is required for facilities other than medical centers.

Conference Rooms: Each separate health facility will have a minimum of one conference room in the area of the Commander. Medical centers will have a minimum of two conference rooms in the area of the Command Suite. All departments (including administrative departments) that include eight or more officers or officer equivalents (contract or civil service) will be provided a conference room. Conference rooms may be shared between clinics, and they may be shared between departments.

Classrooms: Classrooms will be programmed in all freestanding clinics and hospitals for continuing education, staff computer systems training and patient education. Each freestanding clinic will be provided with one classroom and if required, one computer training room. Each hospital will be programmed with one classroom and one computer training room. Medical Centers will be programmed with a minimum of two classrooms and two computer training rooms.

File storage: Normal file storage is provided as part of the furniture for each individual workstation (one file drawer minimum). Additional file storage is provided for with lateral file cabinets. For rooms where additional file storage is required, add 10 nsf for each file cabinet. Secured file storage for classified working documents should be placed in an occupied room and not placed in a file storage room, with the exception of the Secure Storage room in Medical Readiness.

Offices, Key Personnel: Key personnel, as identified in Chapter 2.1, paragraph 2.1.2, will be provided with private offices of the size stated in Chapter 2.1 (General Administration), paragraph 2.1.5.

2.1

DoD Space Planning Criteria for Health Facilities

General Administration

Offices, Private: With the exception of the office provided for "Key Personnel," all other private offices will be 120 net square feet as stated in Chapter 2.1 (General Administration), paragraph 2.1.5. Private offices will be provided to following personnel:

- a) Staff who must meet with patients/customers on a regular basis and hold private consultations/discussion.
- b) The senior officer and enlisted member of a department.
- c) Staff who supervise others and must hold frequent, private counseling sessions with their junior staff. This does not include staff who supervise a very small number of people, and who would only occasionally need private counseling space. These staff can use available conference rooms or other private areas for their infrequent counseling needs
- d) Any personnel who interview or counsel patients with patient privacy concerns.

Office, Non-Private or Shared Space: Personnel, who require office space, but not a private office, will be provided space in a shared office. Non-private or shared office space will be programmed at 60 net square feet per occupant.

2.1.4 PROGRAM DATA REQUIRED:

What is the projected rank of the Commander (i.e. 03, 04, 05, 06, 07, or 08)?
How many Key personnel require an executive office? See Chapter 2.1 (General Administration), Section 2.1.2, Key Personnel Chart.
How many additional Command personnel (other than Key Personnel) require a private office?
How many Command personnel require a dedicated cubicle?
How many executive secretaries will work in the Command Section?
Is there a separate Command Suite receptionist?
Total number of FTEs working on peak shift. Note: This information is used to calculate the number of Command Staff toilets and the size of the Staff Lounge.
Will there be vending machines in the staff lounge?
How many cubicles are required the Center Correspondence Distribution Center?
Will the facility have a Medical Readiness function?
How many private offices are required in Medical Readiness?
How many cubicles are required in Medical Readiness?
How many personnel will require mobility equipment or TA-50 storage?
Will the facility have a Personnel function?
How many private offices are required in Personnel? Do not include Department Chief, NCOIC/LCPO, LPO, secretary, Chief, Military Personnel; Chief, Civilian Personnel; or Chief, Patient Personnel.
How many dedicated cubicles are required in Personnel?
Will there be a Chief of Military Personnel in this facility?
Will there be a Chief of Civilian Personnel in this facility?
Will there be a Chief of Patient Personnel in this facility?

2.1.4 PROGRAM DATA REQUIRED: Continued

Will there be a Comptroller function?

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DoD Space Planning Criteria for Health Facilities

General Administration

How many FTE Efficiency Review officers are required in the Comptroller Office?
How many FTE Quality Assurance officers are required in the Comptroller Office?
How many FTE Budget Analysts are required in the Comptroller Office?
How many FTE Program Analysts are required in the Comptroller Office?
How many FTE Management Analysts are required in the Comptroller Office?
How many private offices are required in the Comptroller Section? Do not count Comptroller, NCOIC/LCPO/LPO, Efficiency Review Officer, Quality Assurance Officer, Budget Analyst, Program Analyst or Management Analyst.
How many dedicated cubicles are required in the Comptroller Section?
How many FTEs are projected in Main Distribution, Medical Readiness, Personnel and Comptroller Sections? Note: This information is used to calculate the number of Staff Toilets.

Note to Programmer: Each of the Military Services has structured their healthcare organizations differently. Even within a Service (Army, Navy or Air Force), there may be considerable variety in the way a healthcare unit is organized. Additionally, the Services use different titles and in many cases the responsibilities, of what may seem to be equivalent titles, may differ (Deputy Command Administration and Administrator). It is important for the Programmer to understand the Clinic Concept of Operations and the organizational structure of the specific medical treatment facility, which he or she is programming. The "Command Suite" is a good example of the need for the Programmer to understand the Clinic Concept of Operations. In some organizations, the MTF's Key Personnel are located in the Command Suite, especially in smaller facilities. In other organizations, especially larger ones, the Key Personnel are the heads of departments with a number of subordinates. In such cases, the Clinic Concept of Operations may dictate that the Key Personnel are not located in the "Command Suite," but instead are located within their department.

NOTE: GP indicates that a guideplate exists for that particular Room Code.

2.1.5 SPACE CRITERIA:

2.1.5.1 COMMAND SUITE: (in Hospitals, Medical Centers or Freestanding Clinics)

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		NSM	NSF	
Commander Use authorized rank of Commander as opposed to actual rank of person in position.	OFC01	18.58	200	O-3 Commander of a Freestanding Clinic (does not include toilet).
	OFC01	22.30	240	O-4 Commander of a Comprehensive Healthcare Clinic (does not include toilet).
	OFC02	27.87	250	O-5 Commander (includes closet).
	OFC03	29.73	270	O-6 or higher Commander (includes and closet).
Toilet	TLTU1	4.65	50	Authorized for O-5 or higher Commanders.
Key Personnel, executive office (Clinic)	OFM01	13.01	140	Per projected Key Personnel requiring an executive office (see chart of Key Personnel in paragraph 2.1.2).
Key Personnel, executive office (Hospital)	OFM02	14.86	160	Per projected Key Personnel requiring an executive office (see chart of Key Personnel in paragraph 2.1.2).

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DoD Space Planning Criteria for Health Facilities General Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		NSM	NSF	
Key Personnel, executive office (Medical Center)	OFM03	16.72	180	Per projected Key Personnel requiring an executive office (see chart of Key Personnel in paragraph 2.1.2).
Private Office for other than Key Personnel	OFA01	11.15	120	Private Office. Standard Furniture. Per projected FTE (for personnel other than those listed in Chart of Key Personnel in paragraph 2.1.2).
	OFA02	11.15	120	Private Office. Systems Furniture. Per projected FTE (for personnel other than those listed in Chart of Key Personnel in paragraph 2.1.2).
Administrative Cubicle	OFA03	5.57	60	Cubicle. Systems Furniture. Per projected FTE requiring a dedicated work space but not a private office.
Executive Secretary with Visitor Waiting	SEC02	11.15	120	Per projected FTE executive secretary in the Command Section (see Chart of Key Personnel in paragraph 2.1.2).
Copy Room	RPR01	11.15	120	Location for Command Suite copy machine, fax machine, central printer, file cabinet (unsecured) and supplies.
Command Suite Receptionist with Visitor Waiting	SEC02	16.72	180	Per projected FTE. One per Command Suite with a general officer commanding. Waiting area is five seats plus one handicapped seat.
Conference Room, Commander's	CRC01	27.87	300	One per Freestanding Clinic or an Ambulatory Surgery Center.
Conference Room, Commander's	CRC01	37.16	400	One per Hospital.
Conference Rooms, Commander's	CRC01	37.16	400	Two conference rooms per Command Suite of a Medical Center - one at 400 and one at 600 nsf. Note: A 400 nsf conference room can seat approximately 20; a 600 nsf conference room can seat approximately 50 (not all seated at the conference table).
	CRC01	55.74	600	
Auditorium	AUD01	260.12	2800	One per Medical Center. 300 seats at 8 nsf per seat and 15 seats at 25 nsf for handicap. Includes 200 nsf for lectern/stage. Special study required for larger requirements.
Projector Booth	AVB01	11.15	120	One per auditorium.
Command Staff Lounge (GP)	SL001	13.01	140	Minimum of 140 nsf for 10 FTEs on peak shift. Add 5 nsf for each peak shift FTE over 10. Maximum size is 300 nsf without vending machines and 320 nsf if vending machines are included.
Command Staff Toilet	TLTU1	4.65	50	Minimum, for total Command Suite staff of at least 15. For total staff greater than 15, provide two toilets.
Command Suite Storage	SRS01	5.57	60	One per Command Suite.
Command Suite Kitchen	FSNP1	5.57	60	One per Hospital or Medical Center Command Suite.

2.1.5.2 MAIN DISTRIBUTION: (in a Freestanding Clinic, Hospital, or Medical Center)

2.1

DoD Space Planning Criteria for Health Facilities

General Administration

Correspondence, Distribution Area	MRMB1	5.57	60	In a Freestanding Clinic.
		11.15	120	In a Hospital.
		16.72	180	In a Medical Center.
Correspondence, Receiving, Sorting Area	MRRS1	5.57	60	In a Freestanding Clinic.
		11.15	120	In a Hospital or Medical Center.
Administrative Cubicle	OFA03	5.57	60	Per projected administrative FTE.

2.1.5.3 MEDICAL READINESS (in a Freestanding Clinic, Hospital, or Medical Center)

Secure Storage Room	SSS01	5.57	60	For secure files and/or safe.
Field Equipment Storage	SRS01	11.15	120	Minimum. For Air Force mobility bags, Army TA-50 and Navy mobilization gear (unit items of issue i.e., gas mask, etc.) Add 2 nsf for each individual requiring such storage. This can be co-located in the Logistics warehouse.
Weapons Room			varies	Special justification.
Private Office	OFA01	11.15	120	Private Office. Standard Furniture. See Policies, paragraph 2.1.3.
	OFA02			Private Office. Systems Furniture.
Administrative Cubicle	OFA03	5.57	60	Cubicle. Systems Furniture. One per FTE requiring a dedicated work space but not a private office.
Emergency Operations Center (EOC) or a Medical Control Center (MCC).	CROP1	18.58	200	One per Freestanding Clinic, if special justification provided (only MTF on installation).
		27.87	300	One per Hospital.
		37.16	400	One per Medical Center.
Storage area	SRS01	2.78	30	Can be part of EOC. For dedicated storage, including a cabinet for communications equipment and maps.

2.1.5.4 Administrative Support Spaces (in a Freestanding Clinics, Hospital or Medical Center):

Administrative functions/positions can be found in almost all elements of the organization of military healthcare facilities, for example, a secretary or an administrator in the Department of Surgery. The space criteria for these administrative support elements are the same and are consolidated in this Chapter of the criteria.

2.1.5.4.1 Space for Administrative Personnel: There are areas for functions, which are common for administrative functions within the General Administration Department i.e. Personnel, TRICARE, etc. Each of the above paragraphs (paragraphs 2.1.5.2 thru 2.1.5.8) may be one person or may be an entire department with numerous administrative personnel. If there are numerous administrative FTEs in a section or department, then use the following sizing data. An understanding of the Clinic Concept of Operations and the specific organization chart is essential as noted in paragraph 2.1.4.

2.1

DoD Space Planning Criteria for Health Facilities

General Administration

2.1.5.4.1 GENERAL ADMINISTRATIVE PERSONNEL SPACES

Private Office for other than Key Personnel	OFA01	11.15	120	Private Office. Standard Furniture. Per projected FTE. See Policies, paragraph 2.1.3.
	OFA02	11.15	120	Private Office. Systems Furniture. Per projected FTE. See Policies, paragraph 2.1.3.
NCOIC/LCPO/LPO	OFA01 OFA02	11.15	120	Per projected FTE.
Administrative Cubicle	OFA03	5.57	60	Cubicle. Systems Furniture. Per projected FTE requiring a dedicated work space but not a private office.
Secretary with Visitor Waiting	SEC01	11.15	120	Per projected FTE.

2.1.5.4.2 Common Administrative Space. These are areas for functions, which are common to each of the above sections or departments and to other clinical and support departments in a health facility. In these cases, common support areas can be shared when the section or department size justifies sharing.

2.1.5.4.2 COMMON ADMINISTRATIVE SPACE (May be shared)

File Storage Room	FILE1	5.57	60	Maximum of 100 nsf when additional space is required.
Copy Room	RPR01	9.29	100	Location for copy machine, fax machine, central printer, file cabinets (unsecured) and supplies. For use by this department only.
Copy Room, High Volume	RPR02	11.15	120	Provide one per Ambulatory Healthcare Center, Hospital or Medical Center.
Conference Room within Administrative Departments (GP – CRA01)	CRA01	23.23	250	Provide one per department with between 8 and 12 FTE officers or officer equivalent personnel. Note: Departments with less than eight officers or officer equivalent need to share this conference room with one or more other departments until there are a combined minimum of eight officers. See Chart for Personnel Equivalents, paragraph 2.1.2..
	CRA02	27.87	300	Provide one per department or combination of departments with 13 to 16 FTE officers or officer equivalents.
	CRA03	37.16	400	Provide per department or combination of departments with more than 16 FTE officer equivalents.
Storage Room	SRS01	5.57	60	One per department.
Staff Toilet	TLTU1	4.65	50	Provide one if there are less than 10 staff in the department. For staffing greater than 10 provide 2 unisex toilets.

2.1.5.4.2 COMMON ADMINISTRATIVE SPACE: Continued (May be shared)

2.1**DoD Space Planning Criteria for Health Facilities**
General Administration

Staff Lounge (GP)	SL001	13.0	140	Minimum 140 nsf for 10 FTEs on peak shift. Add 5 nsf for each peak shift FTE over 10. Maximum size is 300 nsf without vending machines and 320 nsf if vending machines are included.
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2.5

DoD Space Planning Criteria for Health Facilities

Medical Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		in ²	nsf	

2.5.1 PURPOSE AND SCOPE:

This Chapter provides guidance for the planning of Patient Administration in a medical facility. Patient Administration includes TRICARE offices, Admissions & Dispositions, Inpatient and Outpatient Records, and Transcription.

2.5.2. DEFINITIONS:

Administrative Personnel: Administrative personnel are all personnel who do not counsel, diagnosis, examine or treat patients, but who do work that is essential for the accomplishment of the missions of a medical treatment facility. This does include military (assigned and borrowed), contract and civilian personnel. It does not include volunteers.

Admission and Disposition Clerk: A medical records technician, who interviews patients being admitted to the Hospital or Medical Center and who creates the inpatient record and all documents necessary for the admission.

Ambulatory Surgery Records: Ambulatory surgery records are called "Extended Ambulatory Records" but are treated the same as inpatient records and stored with inpatient records in a hospital or medical center. In a freestanding clinic with ambulatory surgery service, these records are managed and stored the same as inpatient records.

Birth Clerk: The birth clerk is responsible for birth related records such as birth certificates and counseling/applications for social security numbers.

Cashier: The cashier is the person responsible for receiving, holding and disbursing cash to and from hospital or Medical Center patients as a result of diagnostic care or treatment.

Decedent Affairs Clerk: The decedent affairs clerk is the person responsible for the administrative details (survivor counseling, paperwork and notifications) incidental to the death of a patient.

Extended Ambulatory Records (EAR): Extended Ambulatory Records are the records used to document ambulatory or "same day" surgery and observation status. These records are treated in the same manner as an inpatient record and they are kept on file for the same period of time as an inpatient record. They are stored within the inpatient records room, or a similar secure area.

Inpatient Records: Inpatient records exist in hospitals and in clinics (where they keep records of active duty members admitted to civilian medical treatment facilities). They provide a record of diagnosis and treatment. Service Regulation and Retention Schedules govern the creation and maintenance of inpatient records. While each of the three services have their own patient record forms and separate training for patient administration technicians, who work with records, the recording within records of diseases and procedures is done in accordance with the International Classification of Diseases-9-CM. (See <http://www.icd-9-cm.org>).

MEDICARE Eligible: A patient who is 65 years of age or older and is qualified for federal reimbursement for healthcare.

Office: A private office is an enclosed room outfitted with either standard furniture (Room Code OFA01) or systems furniture (Room Code OFA02). An administrative cubicle is within an open room and is constructed out of system furniture (Room Code OFA03).

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DoD Space Planning Criteria for Health Facilities

Medical Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
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2.5.2. DEFINITIONS: Continued

Outpatient Records: Outpatient records provide a record of diagnostic and treatment encounters of ambulatory patients in the clinic or a hospital or in a freestanding clinic. Outpatient records are maintained (filed) separately from inpatient records and may be kept in a hospital, Medical Center or a freestanding clinic.

Third Party Collection: Third party collection is that effort to obtain payment for health care services from other than the patient. The first two parties to a health care encounter are the patient and the provider or the organization, which the provider represents. The third party (not existing in all cases) is a payer other than the patient. Third Party payers may be insurance companies, employers or, in some case, governmental agencies.

TRICARE: A Tri-Service managed care program that provides all health care for DoD beneficiaries within a DoD geographical region. It integrates Medical Treatment Facilities (MTF) direct care and TRICARE civilian provider resources by forming partnerships with military medical personnel and civilian contractors. There is typically both a military TRICARE Section and a TRICARE Service Center (TSC) run by civilian contractors in every MTF. Planners must review the regional TRICARE contract to determine if specific amount of minimum space for the contractor is stated for the TSC. **Note:** TSC space is not necessarily in the same area as Medical Administration. Military TRICARE Sections are separate and distinct from TSC's.

2.5.3. POLICIES:

Offices, Private: With the exception of the office provided for "Key Personnel," all other private offices will be 120 net square feet as stated in Chapter 2.1 (General Administration), paragraph 2.1.5. Private offices will be provided to following personnel:

- a) Staff who must meet with patients/customers on a regular basis and hold private consultations/discussion.
- b) The senior officer and enlisted member of a department.
- c) Staff who supervise others and must hold frequent, private counseling sessions with their junior staff. This does not include staff who supervise a very small number of people, and who would only occasionally need private counseling space. These staff can use available conference rooms or other private areas for their infrequent counseling needs.
- d) Any personnel who interview or counsel patients with patient privacy concerns.

Office, Non-Private or Shared Space: Personnel, who require office space, but not a private office, will be provided space in a shared office. Non-private or shared office space will be programmed at 60 net square feet per occupant.

Patient Records. Patient records in DoD facilities will be created, managed and stored in a manner, which maintains patient privacy. Outpatient records will be stored in a single area or may be stored in multiple areas but they are located in dedicated rooms and kept from other records such as inpatient records. Extended Ambulatory Records will be kept as inpatient records and will be separate from outpatient records, even if created and stored in a freestanding clinic.

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DoD Space Planning Criteria for Health Facilities

Medical Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
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2.5.3. POLICIES: Continued

Patient Family Waiting: Supports several functions of the Medical Administrative Sections. Most patients using these areas will be seen by A&D clerks, Air Evac Clerks, and Special Action/ Correspondence clerks. Sizes listed are for each independent function. These are three independent sections/offices that may be co-located. Co-location of these functions could reduce the overall size.

2.5.4. PROGRAM DATA REQUIRED:

Will the facility have a separate Patient Administration function?
Will there be a Chief of Patient Administration?
How many NCOIC/LCPO/LPOs are projected?
How many FTE Medical Records Clerks are projected in Patient Administration?
How many FTE Treasurers are projected?
How many FTE Admission and Disposition Clerks are projected?
How many FTE Birth Clerks are projected?
How many FTE Patient Advocates are projected?
How many FTE Decedent Affairs Clerks are projected?
How many FTE Benefits Counselors are projected?
How many FTE Medical Board/Disability Board Clerks are projected?
How many FTE Service Liaison Clerks are projected?
How many FTE Third Party Collection Clerks are projected?
How many FTE Aero Medical Evacuation Clerks are projected?
How many FTE Medical Coding Clerks are projected?
How many FTE Medical Statistics and Quality Assurance Clerks are projected?
How many additional personnel require a private office? Do include any personnel accounted for in the above questions.
How many additional personnel require a dedicated cubicle?
Will Extended Ambulatory Records (EARs) be maintained in Patient Administration?
What is the projected Average Daily Patient Load (ADPL)?
How many FTEs on peak shift are projected? Note: This information is used to calculate the number of Staff Toilets and the size of the Staff Lounge.
Will there be vending machines in the Staff Lounge?
Is a TRICARE Service Center (TSC) within the facility?
Is a TSC Director projected?
How many FTE TSC secretaries are projected?
How many FTE TSC staff will require a dedicated cubicle?
How many TSC Patient Interview windows are required?
How many FTE TSC Service Consultants are projected?
Is a Military TRICARE Program office projected?
Is a Military TRICARE Director projected?
Is a Military TRICARE NCOIC/LCPO/LPO projected?
Is a Military TRICARE Secretary projected?
How many FTE administrative staff require a dedicated cubicle?
How many Military TRICARE Patient Interview Windows are required?
How many FTE Military TRICARE Consultants are projected?

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DoD Space Planning Criteria for Health Facilities

Medical Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		in ²	nsf	

2.5.4. PROGRAM DATA REQUIRED: Continued

Will the facility have inpatient care and/or ambulatory surgery?
How many annual admissions are projected?
How many annual ambulatory surgery procedures are projected?
Will Inpatient Records use fixed shelving (Yes = fixed, No = moveable shelving)?
How many FTE Inpatient Records Clerks are projected?
How many FTE Medical Records Transcriptionists are projected?
How many inpatient beds are projected?
Will outpatient records be stored in Patient Administration?
How many FTE Outpatient Records Clerks during peak shift will require a dedicated cubicle?
How many FTE Personnel Reliability Program Clerks are projected?
How many outpatient records will be stored in Patient Administration?
How many outpatient MEDICARE records will be stored in Patient Administration?
Will Outpatient Records use fixed shelving (Yes = fixed, No = moveable shelving)?
How many shelves high (5 or 6 will be used in outpatient records)?
Will the MTF have a central appointment service?
How many FTE Central Appointment Clerks are projected on peak shift? Note: This information is used to calculate the size of the Staff Lounge within the Central Appointments Section.
How many Red Cross Volunteers work in the MTF?
Is a Red Cross Director projected?
Is a Red Cross Secretary projected?

2.5.5. SPACE CRITERIA (for Hospitals and Medical Centers and for Free-Standing Clinics which maintain Extended Ambulatory Records (EAR's))

2.5.5.1. Patient Administration Office Coordinate the terms below, since each Service may have Service specific terminology for various Medical Administration functions.

Chief of Patient Administration	OFA01	11.15	120	Private office, Standard Furniture. Per projected FTE.
	OFA02	11.15	120	Private office, System Furniture.
NCOIC/LCPO/LPO	OFA01	11.15	120	Per projected FTE.
	OFA02			
Medical Records Clerk(s)	OFA03	5.57	60	Per projected FTE medical records clerks.
Storage Room	SRS01	5.57	60	One per Patient Administration Office.
Admission/Disposition Interview Window	PAIA1	5.57	60	Per projected FTE Admission/Disposition Clerk.
Treasurer	OFA03	5.57	60	Per projected FTE.
Cashier Window	CASH1	5.57	60	Secure room with a payments window
Patient Counseling Room	OFA01	11.15	120	One per Patient Administration Office.
	OFA02			
Birth Clerk Office	OFA01	11.15	120	Per projected FTE.
	OFA02			
Patient Advocate Waiting Area	WRC01	7.43	80	Minimum. Add an additional 40 nsf for each FTE patient advocate greater than one.
Patient Advocate Office	OFA01	11.15	120	Per projected FTE.
	OFA02			

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Medical Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		in ²	nsf	

2.5.5.1. Patient Administration Office: Continued

Decedent Affairs Office	OFA01	11.15	120	Per projected FTE.
	OFA02			
Benefits Counselor Office	OFA01	11.15	120	Per projected FTE.
	OFA02			
Patient Baggage Storage	SRPB1	11.15	120	Secure room for patient luggage
Medical Board/Disability Board or Physical Evaluation	OFA03	5.57	60	Per projected FTE.
Service Liaison Office	OFA01	11.15	120	Minimum. If FTE greater than two, provide 60 nsf for each additional (Army, Navy, Air Force, and Marine Corps) Service representative attached to the Hospital or Medical Center.
	OFA02			
Third Party Collection Clerk(s)	OFA03	5.57	60	Per projected FTE.
Aero-Medical Evacuation Clerk(s)	OFA03	5.57	60	Per projected FTE.
Record Coding Room	MRWK1	11.15	120	Minimum. Add an additional 60 nsf per medical coding clerk greater than two.
Medical Statistics and Quality Assurance Section	MRWK1	11.15	120	Minimum. Add an additional 60 nsf per clerk greater than two.
Private Office	OFA01	11.15	120	One per projected FTE requiring a private office. See Chapter 2.1 (General Administration), paragraph 2.1.3. Do not include Department Chief, NCOIC/LCPO/LPO, Birth Clerks, Patient Advocates, Decedent Affairs Clerks, Benefits Counselors, and Service Liaisons.
	OFA02			
Administrative Cubicles	OFA03	5.56	60	Per projected FTE requiring a dedicated work-space but not a private office. See Chapter 2.1, paragraph 2.1.3. Do not include Medical Records Clerks, Treasurer, Cashiers, Medical Board/Disability Board/Evaluation Clerks, Third Party Collection Clerks, and Aero Medical Evacuation Clerks.
Staff Lounge	SL001	13.01	140	Minimum 140 nsf for 10 FTEs on peak shift. Add 5 nsf for each peak shift FTE over 10. Maximum size is 300 nsf without vending machines and 320 nsf if vending machines are included.
Patient / Family Waiting.	WRC01	9.29	100	For freestanding clinic, that maintains EARs. Maximum.
		18.58	200	For hospitals with up to 100 average daily inpatients.
		37.16	400	For hospitals with more than 100 average daily inpatients.

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FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	

2.5.5.2. TRICARE Service Center (TSC) (in freestanding Clinics, Hospitals, and Medical Centers) Planner must review the regional TRICARE contract to determine if specific minimum space requirements exist (minimum amount of space that the government is required to provide the contractor).

TSC Director Office	OFA01	11.15	120	Per projected FTE.
	OFA02			
Secretary w/ Visitor Waiting	SEC01	11.15	120	Per projected FTE.
Administrative Cubicle	OFA03	5.57	60	Per projected TSC staff that require a dedicated cubicle.
Forms/Literature Storage	SRS01	5.57	60	One per TSC.
TSC Patient Interview Window	PAIA1	5.57	60	Minimum of two. One per staffed window. May be shared with Military TRICARE.
TSC Service Consultant Office	OFA01	11.15	120	Per projected FTE TRICARE Service Consultant. Examples – Benefits Advisors, Nurse Managers, Utilization Managers, etc.
	OFA02			
TSC Waiting Area	WRC01	5.57	60	Minimum. Provide two seats at 16 nsf each for each FTE TSC Service Consultant.
TSC Reception/ Information	RECP3	11.15	120	Combine with waiting area.

2.5.5.3. Military TRICARE (in freestanding Clinics, Hospitals, and Medical Centers)

TRICARE Director Office	OFA01	11.15	120	Per projected FTE.
	OFA02			
NCOIC/LCPO/LPO Office	OFA01	11.15	120	Per projected FTE.
	OFA02			
Secretary w/ Visitor Waiting	SEC01	11.15	120	Per projected FTE.
Administrative Cubicle	OFA03	5.57	60	Per projected Military TRICARE staff that require a dedicated cubicle.
Forms/ Literature Storage	SRS01	5.57	60	One per Military TRICARE.
Patient Interview Window	PAIA1	5.57	60	Minimum of two. One per staffed window. May be shared with TRICARE Service Center.
TRICARE Consultant(s) Office	OFA01	11.15	120	Per projected FTE Military TRICARE Service Consultant. Examples - Benefits Advisors, Nurse Managers, Utilization Managers, etc.
	OFA02			
TRICARE Waiting Area	WRC01	5.57	60	Minimum. Provide two seats at 16 nsf each for each FTE Military TRICARE Service Consultant.
TRICARE Reception	RECP3	7.43	80	Combine with waiting area.

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Medical Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	

2.5.5.4 Inpatient Records (in Hospitals and Medical Center and Clinics with Ambulatory Surgery Service)

Inpatient Records File Room	MRS01	18.58	200	Minimum. Fixed Shelving. See formula below in para. 2.5.5.7.
	MRS02			Minimum. Moveable Shelving. See formula below in para. 2.5.5.7.
Ambulatory Surgery Records	MRS01 MRS02	9.29	100	Minimum. See formula in para. 2.5.5.7. for Inpatient Records
Records/ Air Evacuation Work Area	MRWK1	18.58	200	One per records room. Includes copy machine.
Admission and Discharge (A&D) Cubicle	PAIA1	5.57	60	One "privacy booth" per projected FTE A&D Clerk.
Patient Record Clerks	OFA03	5.57	60	Per projected FTE.
Medical Records Transcription Room	MRT01	5.57	60	Per projected FTE.
Physician Work Room	WRCH1	11.15	120	Minimum for a facility with less than 50 beds. Increase to 180 nsf if MTF has greater than 50 inpatient beds.

2.5.5.5. Outpatient Records (in any Medical Treatment Facility)

Records Window	RECP1	5.57	60	One per Outpatient Records area for the dispensing/collection of records. Area may be distributed inside and outside of the records area window. This space can be decentralized to the Primary Care Clinic.
NCOIC/LCPO/LPO Office	OFA01 OFA02	11.15	120	Per projected FTE. This space can be decentralized to the Primary Care Clinic.
Record Clerk Cubicle	OFA03	5.57	60	Minimum. 40 nsf per Medical Records clerk during peak staffing shift. This accounts for large facilities that run several shifts in this area. This space can be decentralized to the Primary Care Clinic.
Personnel Reliability Program (PRP) Office	OFA03	5.57	60	Per projected FTE PRP clerk. This space can be decentralized to the Primary Care Clinic.
Outpatient Records Storage	MRS01	11.15	120	Fixed Shelving. Minimum. If outpatient records are stored in Patient Administration, see formula in para. 2.5.5.7. This space can be decentralized to the Primary Care Clinic.
	MRS02			Movable Shelving. See above.

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DoD Space Planning Criteria for Health Facilities

Medical Administration

FUNCTION	ROOM CODES	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	

2.5.5.6. Central Appointments Office. (In any Medical Treatment Facility with a Central Appointment staff)

Central Appointments Director Office	OFA01	11.15	120	Per Central Appointment Office.
	OFA02			
Central Appointments Clerk Cubicle	OFA03	5.57	60	Per projected FTE Central Appointment Clerk on peak shift. This accounts for large facilities that run more than one appointment shift.
Central Appointments Staff Lounge	SL001	9.29	100	Minimum. Only for areas with eight or more clerks. Add 5 nsf for each five clerks over 10.

2.5.5.7 Red Cross

Red Cross Director	OFA01	13.01	140	Per projected FTE Red Cross Director.
	OFA02			
Red Cross Secretary w/ Visitor Waiting	SEC01	11.15	120	Per projected FTE secretary.
Volunteer Staff Lounge	SL001	13.01	140	Provide one Red Cross lounge when volunteer count exceeds ten.
Volunteer Staff Personal Property Locker	LR001	1.86	20	Minimum. Provide two nsf for every projected volunteer on duty at one time in excess of ten. Maximum of 100 nsf.

2.5

DoD Space Planning Criteria for Health Facilities

Medical Administration

2.5.5.8 Formulas.

Note: Concerning all records storage areas: If a high-density file storage system (space saver) is planned, the net square footage may be reduced by 44.8%.

Formulas for Patient Records Storage Areas:

Formulas for Inpatient Records and Extended Ambulatory Records Storage Areas:

Inpatient/EAR Records: NSF = (annual admissions) X (maximum year records are retained factor) X (inches of records per admission) X (0.055 NSF)

Note: Because measurement of these records is based on an actual measurement of records on hand, there is not a requirement to calculate MEDICARE eligible records separately.

STEPS:

1. Project the number of admissions and ambulatory surgery procedures in medical facility annually.
2. Determine the number of years this facility will retain active records and apply the appropriate factor:
 Factor = 3, if not required to maintain records for two years.
 Factor = 6, if required to maintain records for five years.
 NOTE: As a rule medical centers retain records for five years and other hospitals retain records for two years.
3. Calculate the inches of record per admission, often a fraction of an inch. Count the number of inpatient records in a typical sample of 50 inches of records (4 foot - 2 inches) of records. This is a measure of the thickness of the records. The fifty inches of records would be 50 inches if stacked on top of each other. Divide 50 inches by the number of records in the stack 50 inches high - i.e. you will arrive at average thickness of a record (inches per record).
4. 0.055 is a conversion factor (square foot per inch), which converts inches of records into square feet of floor space needed to store the records in shelving that is 3 feet wide and 6 shelf units high and includes the aisle space to file and retrieve records.
5. Insert the appropriate numbers and factors in the formula and calculate the required net square feet (nsf).

Note: Inactive records are sent to the National Treatment Records Center.

2.5

DoD Space Planning Criteria for Health Facilities

Medical Administration

Formula for Outpatient Records Storage Areas:

Note: Concerning all records storage areas: If a high-density file storage system (space saver) is planned, the net square footage may be reduced by 44.8%.

Outpatient Records Room: $NSF = (\text{projected number of records}) / (\text{linear feet conversion factor}) \times (0.06 \text{ square feet per linear foot, shelf factor})$

Note: This formula must be calculated separately for MEDICARE eligible patients and for non-MEDICARE eligible patients using a different linear feet conversion factor and different projected numbers of records.

STEPS:

1. From the beneficiary population to be served, project the number of non-MEDICARE eligible patient records that require file space.
2. Use a linear feet conversion factor of 16 records per linear foot for non-MEDICARE patients.
3. Insert the appropriate numbers and calculate the formulas.
4. If the MTF is providing care to MEDICARE eligible patients, then also calculate additional space using the same formula as follows.
5. From the beneficiary population to be served, project the number of MEDICARE eligible patient records that require file space.
6. Use a linear feet conversion factor of 8 records per linear foot.
7. Insert the appropriate numbers and calculate the formulas.
8. Combine the NSF of space required for MEDICARE and non-MEDICARE eligible patients to obtain the total outpatient files storage area required.

3.18

DoD Space Planning Criteria for Health Facilities

Mental Health

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		in ²	nsf	

3.23.1. PURPOSE AND SCOPE: This Chapter provides guidance for the planning of military mental health, social work, and substance abuse areas in medical facilities. This area is under revision. However, it has the basics for a clinic.

3.23.2. DEFINITIONS:

Administrative Personnel: Administrative personnel are all personnel who do not counsel, diagnosis, examine or treat patients, but who do work that is essential for the accomplishment of the missions of a medical treatment facility. This does include military (assigned and borrowed), contract and civilian personnel. It does not include volunteers.

Full-Time Equivalent (FTE): A work force equivalent to one individual working full time for a specific period, which may be made up of several part-time individuals or one full-time individual. This will include everyone working in the facility: military, civilian and contractor personnel.

Office: A private office is an enclosed room outfitted with either standard furniture (Room Code OFA01) or systems furniture (Room Code OFA02). An administrative cubicle is within an open room and is constructed out of system furniture (Room Code OFA03).

Provider: An individual, who examines, diagnoses, treats, prescribes medication and manages the care of patients within his or her scope of practice as established by the governing body of a healthcare organization. General providers are physicians, physician's assistants and clinical nurse practitioners. The term 'staff physician' in relation to a Residency Program, does not include physician assistants, nurse practitioners or residents.

3.23.3. POLICIES:

Offices, Private: With the exception of the office provided for "Key Personnel," all other private offices will be 120 net square feet as stated in Chapter 2.1 (General Administration), paragraph 2.1.5. Private offices will be provided to following personnel:

- a) Staff who must meet with patients/customers on a regular basis and hold private consultations/discussion.
- b) The senior officer and enlisted member of a department.
- c) Staff who supervise others and must hold frequent, private counseling sessions with their junior staff. This does not include staff who supervise a very small number of people, and who would only occasionally need private counseling space. These staff can use available conference rooms or other private areas for their infrequent counseling needs.
- d) Any personnel who interview or counsel patients with patient privacy concerns.

Office, Non-Private or Shared Space: Personnel, who require office space, but not a private office, will be provided space in a shared office. Non-private or shared office space will be programmed at 60 net square feet per occupant.

Providers' Offices: Generally, each provider (physician, physician's assistant, clinical nurse practitioner, and allied scientist) on the staff will be provided a private office (excluded offices are provided under other criteria, such as Radiologists, Pathologists, Anesthesiologists, Commanders, etc.). However, shared office space is encouraged and is an option if it is within the Clinic Concept of Operations.

3.18

DoD Space Planning Criteria for Health Facilities Mental Health

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	

3.23.4. PROGRAM DATA REQUIRED:

How many FTE psychiatrists are projected?
How many FTE psychologists are projected?
How many FTE nurse practitioners are projected?
How many FTE nurse clinicians are projected? Note: Acts as a 'provider'.
How many FTE social workers?
How many FTE mental health technicians are projected?
How many FTE NCOIC/LCPO/LPO are projected?
How many FTE officers or officer equivalents are projected? Note: This information is used to calculate the size of the Conference Room. See Chapter 2.1 (General Administration), paragraph 2.1.2 for Personnel Equivalents Chart.
How many FTE staff will require a private office? Note: Do not count providers, nurse managers, advice nurses, or NCOIC/LCPO/LPOs.
How many FTE staff will require a cubicle? Note: Do not include providers or nursing staff
How many staff will require a locker? Note: Do not include staff with offices or cubicles.
How many FTEs on peak shift are projected? Note: This information is used to calculate the number of Staff Toilets and the size of the Staff Lounge.
Will a play waiting area be required?
Will biofeedback be performed in the clinic?
Is a Child Psychiatry/Psychology Program projected?
Will psychological testing be performed in clinic?
Will patient records use fixed shelving?
How many patient records will be stored in this clinic?
How many shelves high (5 or 6) will be used?
How MEDICARE records are stored in this clinic?
Will there be vending machines in the Staff Lounge?

3.23.5. SPACE CRITERIA:

NOTE: GP indicates that a guideplate exists for that particular Room Code.

RECEPTION AREAS				
Clinic Waiting	WRC01	5.57	60	Minimum. Provide three seats per each projected FTE provider. Provide 16 nsf for 95% of the seats and 25 nsf for 5% of the seats (handicapped waiting).
Play Waiting (GP)	PLAY1	9.29	100	One per clinic, if in Clinic Concept of Operations.
Reception (GP)	RECP1	13.01	140	Minimum. Provide 140 nsf for the first eight providers. Increase 60 nsf for each increment of four providers over the initial eight providers.
Public Toilets	NA	NA	NA	Space will be provided in the Common Areas. See Chapter 6.1 (Common Areas).

3.18

DoD Space Planning Criteria for Health Facilities Mental Health

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	usf	

PATIENT AREAS

Psychiatrist Office	OFDC1	13.01	140	One per projected FTE psychiatrist.
Psychologist Office	OFDC1	13.01	140	One per projected FTE psychologist.
Nurse Practitioner Office	OFDC1	13.01	140	One per projected FTE nurse practitioner counseling patients.
Nurse Clinician Office	OFDC1	13.01	140	One per projected FTE nurse clinician.
Social Worker Office	OFDC1	13.01	140	One per projected FTE social worker.
Mental Health Technician Office	OFA01	11.15	120	Private Office, Standard Furniture - One per projected FTE Mental Health technician
	OFA02			Private Office, System Furniture
Group Therapy	OPMH1	18.58	200	One per clinic with less than or equal to three psychiatrists/psychologists. Two per clinic with more than three psychiatrists/psychologists.
Biofeedback Room	OPMH3	13.94	150	If in Clinic Concept of Operations.
Child Play Observation	OPMH4	11.15	120	One per clinic with child psychiatry/psychology program. For additional rooms, individual study required.
Psychological Testing	OPMH2	9.29	100	If in Clinic Concept of Operations.

STAFF AND ADMINISTRATIVE AREAS

NCOIC/LCPO/LPO Office	OFA01	11.15	120	Private Office, Standard Furniture - One per projected FTE NCOIC/LCPO/LPO.
	OFA02			Private Office, System Furniture
Private Office	OFA01	11.15	120	Private Office, Standard Furniture - One per projected FTE requiring a private office but is not counseling patients.
	OFA02			Private Office, System Furniture
Administrative Cubicle	OFA03	5.57	60	Per projected FTE requiring a dedicated work - space but not a private office. See Chapter 2.1 (General Administration).
Records Storage	MRS01	11.15	120	Minimum. Fixed shelving. See Chapter 2.5 (Medical Administration) for increase in size.
	MRS02			Minimum. Movable shelving. See Chapter 2.5 (Medical Administration) for increase in size.
Copy Room	RPR01	9.29	100	For Copier/Fax/Mailbox distribution.
Forms/Literature Storage	SRS01	9.29	100	One per clinic.

3.18

DoD Space Planning Criteria for Health Facilities
Mental Health

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	
STAFF AND ADMINISTRATIVE AREAS Continued				
Conference Room (GP)	CRA01	23.23	250	Minimum use CRA01. One per Department with eight to twelve officers or officer equivalents. See Chapter 2.1 (General Administration), paragraph 2.1.2 for Personnel Equivalent Chart.
	CRA02	27.87	300	One per Department with thirteen to sixteen officers or officer equivalents.
	CRA03	37.16	400	One per Department with greater than sixteen officers or officer equivalents.
Staff Lounge (GP)	SL001	13.01	140	Minimum 140 nsf for 10 FTEs on peak shift. Add 5 nsf for each peak shift FTE over 10. Maximum size is 300 nsf without vending machines and 320 nsf if vending machines are included.
Staff Toilets (GP)	TLTU1	4.65	50	Minimum one for first 15 FTEs on peak shift. Add one TLTU1 for each additional 15 FTEs on peak shift; can be combined into multi-stall toilets.

4.6

DoD Space Planning Criteria for Health Facilities

Psychiatric Units

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		in ²	nsf	

4.6: Psychiatric units do not usually require isolation rooms.

4.6.1 DEFINITIONS:

Administrative Personnel: Administrative personnel are all personnel who do not counsel, diagnosis, examine or treat patients, but who do work that is essential for the accomplishment of the missions of a medical treatment facility. This does include military (assigned and borrowed), contract and civilian personnel. It does not include volunteers.

Office: A private office is an enclosed room outfitted with either standard furniture (Room Code OFA01) or systems furniture (Room Code OFA02). An administrative cubicle is within an open room and is constructed out of system furniture (Room Code OFA03).

Provider: An individual, who examines, diagnoses, treats, prescribes medication and manages the care of patients within his or her scope of practice as established by the governing body of a healthcare organization. For the purposes of this chapter, providers are psychiatrists, psychologists, social workers, psychiatric nurse practitioners and psychiatric technicians.

4.6.2 POLICIES:

Offices, Private: With the exception of the office provided for "Key Personnel," all other private offices will be 120 net square feet as stated in Chapter 2.1 (General Administration), paragraph 2.1.5. Private offices will be provided to following personnel:

- a) Staff who must meet with patients/customers on a regular basis and hold private consultations/discussion.
- b) The senior officer and enlisted member of a department.
- c) Staff who supervise others and must hold frequent, private counseling sessions with their junior staff. This does not include staff who supervise a very small number of people, and who would only occasionally need private counseling space. These staff can use available conference rooms or other private areas for their infrequent counseling needs
- d) Any personnel who interview or counsel patients with patient privacy concerns.

Office, Non-Private or Shared Space: Personnel, who require office space, but not a private office, will be provided space in a shared office. Non-private or shared office space will be programmed at 60 net square feet per occupant.

Provider: An individual, who examines, diagnoses, treats, prescribes medication and manages the care of patients within his or her scope of practice as established by the governing body of a healthcare organization. For the purposes of this chapter, providers are psychiatrists, psychologists, social workers, psychiatric nurse practitioners and psychiatric technicians.

INPATIENT BEDROOMS

Psych, Bedroom 1 Bed	BRNP1	17.19	185	
Psych Bedroom 2 Bed	BRNP2	26.01	280	
Psych Seclusion Bedroom	BRNP5	13.01	140	
Psych Seclusion, Anteroom	BRNP6	5.57	60	
Toilet - Psychiatric	TLTP1	5.57	60	
Toilet/Shower - Psychiatric	TLTP3	5.57	60	One per inpatient bed

4.6

DoD Space Planning Criteria for Health Facilities Psychiatric Units

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	

NURSING/ADMINISTRATIVE AREAS (PER NURSING UNIT)

Nurse Station	NSTA1	13.94	150	Minimum. for the first 6 beds. Add 5 nsf for each bed over 6. One per unit
Central Monitor Server	CMP02	5.57	60	May be provided if central monitoring is required for telemetry, patient monitors, etc.
Treatment room (GP)	TRGM1	16.26	175	One per unit. For minor procedures.
Medication Preparation	MEDP1	9.29	100	One per unit
Nourishment Center (GP)	NCWD1	9.29	100	One per unit
Nurse Workroom	WRCH1	11.15	120	One per unit
Conference / Report Room	CRA01	18.58	200	One per unit
Physicians' Charting / Dictation	WRCH1	7.43	80	One per unit
On-Call Room (GP)	DUTY1	11.15	120	If required
On Call Toilet & Shower	TLTS1	5.57	60	One per On-Call room
Kitchen	OTDL1	11.15	120	One per unit
Group Activity Room	DAYR1	23.23	250	Min. One per unit an 10nsf for each bed over 10
Group Therapy	OPMH1	23.23	250	Min. One per unit an 10nsf for each bed over 10
Nurse Supervisor's Office.	OFA01	11.15	120	Private office, standard furniture. One per unit
	OFA02	11.15	120	Private office, system furniture
NCOIC/LCPO/LPO Office	OFA01/2	11.15	120	One per unit
Private Office	OFA01/2	11.15	120	For authorized FTE
Administrative work area	OFA03	5.57	60	Cubicles for authorized FTE

SUPPORT AREAS (PER NURSING UNIT)

Staff Lounge	SL001	13.01	140	One per unit
Staff Toilets			varies	See Chapter 6.1 (Common Areas).
Staff Locker	LR001		varies	See Chapter 6.1 (Common Areas).
Clean Supply	UCCL1	11.15	120	Minimum. for the first 12 beds. Add 5 nsf per bed over 12.
Soiled Utility	USCL1	9.29	100	One per unit
Clean Linen	UCCL1	5.57	60	One per unit
Equipment Storage	SRSE1	9.29	100	One per unit
Patient property storage	SRPB1	3.72	40	One per unit
Crash cart storage	RCA01	3.72	40	One per unit
Stretcher and Wheelchair Storage	SRLW1	7.43	80	One per unit

6.1

DoD Space Planning Criteria for Health Facilities

6.1 Common Areas

6.1.1. PURPOSE AND SCOPE:

This section provides guidance for the space planning criteria for the common areas in DoD medical facilities. This includes lobbies, vending areas, toilets, central changing locker rooms and janitor closets.

6.1.2. DEFINITIONS:

Automated Teller Machine (ATM): An automated machine typically associated with a specific bank that has a contract on the base or post to provide a banking service where patrons can withdraw money from their account.

Diaper Changing Area: A fold-down table required in all public toilets in the waiting areas and patient toilets within the clinic area in the emergency department, primary care and pediatric clinics, and women's health.

Exchange Service: Retail outlets and services shops operated directly by, or under contract to, the exchange service of either the Army, Air Forces or by the Navy.

Entry: The door(s) and the exterior portion of the access to a medical treatment facility. This will include a covering to shelter people from the weather while waiting for vehicle pick-up.

Employee Count: The number of FTE employees used in determining plumbing fixtures, lockers or lounge areas. Unless specifically noted otherwise, the number of employees used should be during the peak shift.

Full-Time Equivalent (FTE): A work force equivalent to one individual working full time for a specific period, which may be made up of several part-time individuals or one full-time individual. This will include all military, civilian and contractor personnel working in the facility.

Janitor Closets: A janitor closet is to be used primarily by the housekeeping staff, either an in-house or a contracted service staff member. This room should include a service sink, shelving for a limited amount of housekeeping supplies, and floor space for housekeeping equipment, such as a vacuum cleaner and/or mop bucket. Verify the specific contractor requirement if a contracted service group is employed. These closets will be distributed throughout the hospital, one per 10,000 nsf. In addition to these distributed janitor closets there are janitor closets dedicated to a specific function. Several departments can share one janitor closet, as long as the area of all the departments does not exceed 10,000 nsf.

Lobby: The anteroom of the building through which most visitors/patients enter and depart the medical treatment facility. American Institute of Architects' Guideline for Design and Construction of Hospital and Health Care Facilities, requires that lobbies include: a counter or desk for reception and information, public waiting area(s), public toilet facilities, public telephones and drinking fountain(s).

Patient Toilet: This is a toilet that is intended for the use of any patient in a dedicated area or department and is located beyond the public area or public corridor.

Public Toilet: This is a toilet that is intended for the use of anyone in the facility and is located in a public area or off a public corridor.

Public Telephone: This includes pay phones and any other phones, usually with local call access, that are intended for the use of patients and visitors to the medical treatment facility

Staff Lounge: This is a room intended as a break area for the workers in their working area (clinic, section, service, etc.) It will have a microwave, sink area, table and chairs. The staff lounge must be provided with a sink. In very large departments, it may include vending machines. Where a staff lounge will serve less than 10 employees during the peak-staffed shift, every effort will be made to combine the lounges from two or more adjacent clinics.

6.1

DoD Space Planning Criteria for Health Facilities

6.1 Common Areas

Staff Toilet: This is a toilet that is intended for the use of the personnel that work in the area, i.e. not for public use. Staff toilets should not as a rule, be located convenient to the public.

Staff Changing Locker Room: This is an area, which includes lockers, for staff personnel to work out/change clothes while at work. This area will be adjacent to a shower area and toilet facilities. This is an addition to the dedicated requirements for specific departments, i.e. surgery, labor and delivery, etc.

Staff Personal Property Locker Area: This is a locker area for staff personnel, who do not have an office or a dedicated cubicle, to secure their personal items while at work.

Vestibule: A passageway connecting the outside to the interior of the building. This is intended to provide a transition from the exterior to the interior and visa versa. This is also intended to provide a buffer from wind and weather.

6.1.3. POLICIES/FORMULAS:

Each Department, Service or Clinic of a medical treatment facility will be provided with adequate toilet, lounge and locker facilities. An adequate number of toilets will be provided in appropriate locations to provide facilities to handicapped persons in accordance with the Americans with Disabilities Act (ADA).

Public Telephones: Publicly accessible telephones should generally be located in the following areas of the facility: main lobbies, pharmacy, emergency department, labor and delivery waiting area, ICU waiting area, and surgery waiting area.

Plumbing Fixtures: MIL-HDBK-1003/1 has adopted the International Plumbing Code (IPC) 2000, with certain amendments. The following formulas (which are based on MIL-HDBK-1003/1) will be used to determine the number of fixtures. A fixture is a water closet, lavatory, or urinal. These formulas determine the number of water closets. Determine the number of water closets and add space for an equal number of lavatories. In a male multi-stall bathroom up to 34% of water closets may be substituted with urinals.

Patient toilets within a clinic: These toilets are addressed in the individual sections that require patient toilets. Provide one if more than three providers are assigned to the department. Provide two if more than nine providers are assigned to the department. Provide three if more than 16 providers are assigned to the department. Provide a maximum number of three water closets within a single department.

NOTE *THE FOLLOWING PUBLIC RESTROOM FORMULA IS CONSIDERED DRAFT GUIDANCE AND SHOULD NOT BE CONSIDERED FIRM CRITERIA*

Public Restrooms: Public restrooms will be distributed throughout the facility in waiting areas and other public areas. This can be separated into single unisex toilets or large multi-stall toilets during design dependent on the physical layout of the medical treatment facility.

Outpatient visits less than 100,000 annually:

$\text{Outpatient visits year} / 250 \text{ workdays year} / 20 + [1 \text{ toilets per } 16 \text{ inpatient beds}] = \text{total number of public toilets}^{**}$

Outpatient visits between 100,000 and 350,000 annually:

$\text{Outpatient visits year} / 250 \text{ workdays year} / 40 + [1 \text{ toilets per } 16 \text{ inpatient beds}] = \text{total number of public toilets}^{**}$

Outpatient visits more than 350,000 annually:

$\text{Outpatient visits year} / 250 \text{ workdays year} / 60 + [1 \text{ toilets per } 16 \text{ inpatient beds}] = \text{total number of public toilets}^{**}$

6.1

DoD Space Planning Criteria for Health Facilities

6.1 Common Areas

* When dividing the number of inpatient beds by 16, add one water closet and lavatory if the remainder is greater than 0.5.

**When determining the total number of toilets for a facility always add one water closet and lavatory if the remainder is greater than 0.1.

NOTE: When determine the space required, ensure the lavatories are added in equal number. If the male bathroom has a multi-stall, up to 34% of all water closets may be substituted with urinals.

Staff Toilets: Provide one water closet and one lavatory if there are 10 or more staff within department, otherwise combine departments and centrally locate the staff toilets. Provide one water closet and one lavatory per 15 staff. When dividing the total number of staff by 15 to determine the total number of water closets, add one water closet/lavatory if remainder is greater than 0.5. Divide the total number of total water closets into 50% male and 50% female. If the male bathroom has a multi-stall, up to 34% of all water closets may be substituted with urinals.

Drinking fountains: Drinking fountains should *not* be located within restrooms. Provide one drinking fountain set (one standard and one accessible) per 100 staff, and distribute throughout the facility. For multi-floored facilities, minimum one fountain per floor.

Locker Rooms: In general, locker room space will be consolidated into a central locker room facility for staff exercise programs, separated from patient areas, with appropriate water closet and facilities. They can be distributed throughout a medium or large facility if necessary. A stand-alone facility without patient visits are authorized a small central locker room and may be increased with justification. The following chart will be used to determine number of fixtures:

260 minimum for one shower (TLTS1), one toilet (TLTU1), and 20 half-size lockers (LR002). Add 30 nsf per additional toilet, 6.5 nsf for locker and 30 per shower.

Facility Size	Water closets /Lavatories	Showers	Lockers (1/2 size)
Small (<100,000 annual outpatient visits)	2/2	2	20
Medium (between 100,000 and 350,000 annual outpatient visits)	6/6	6	40
Large (>350,000 annual outpatient visits)	10/10	10	60

Personal Property Locker Areas: In general, personal property locker area space will be provided in departments when some of the staff does not have dedicated workspace. Provide one locker per employee during peak shift that does not have a private office or dedicated cubicle. See individual department criteria.

6.1

DoD Space Planning Criteria for Health Facilities

6.1 Common Areas

6.1.4. PROGRAM DATA REQUIRED:

How many outpatient visits are projected?
How many inpatient beds are projected?
Will there be AAFES/NEX facilities within the MTF?
Is an exchange retail store or gift shop projected?
Is a food service (coffee shop or fast food shop) projected?
Is a banking facility projected?
Is a blind vendor area projected?
Is a flower shop projected?
Is a barber shop projected?
Is a beauty shop projected?
Is an ATM projected?

6.1.5. SPACE CRITERIA:

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		in ²	nsf	

LOBBIES	The lobby area includes public telephones, water fountain(s), wheelchair storage alcove, and building directories.			
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Free Standing Clinic Lobby	LOB01	18.58	200	Small (<100,000 annual outpatient visits) *Note: for facilities without patient visits provide 200 nsf. increase with justification
			400	Medium (between 100,000 and 350,000 annual outpatient visits)
			600	Large (>350,000 annual outpatient visits)
Hospital Lobby	LOB01	18.58	200	Small (<100,000 annual outpatient visits)
			600	Medium (between 100,000 and 350,000 annual outpatient visits)
			800	Large (>350,000 annual outpatient visits)
Information Desk	RECP3	5.57	60	One per freestanding clinic with more than 15 providers and one projected FTE to staff the desk. Two per hospital, one for the clinic entry and one for the inpatient visitor entry, when projected FTE staffing is for two desks.
Vestibule	LOB02	5.57	60	Minimum. One per lobby. Increase in size is dependent on climate and size of facility. Additional vestibules may be needed.
Patient Education Kiosk/Alcove	CLSC1	2.78	30	One per lobby area

6.1

DoD Space Planning Criteria for Health Facilities

6.1 Common Areas

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	

LOBBIES (CONTINUED)

Public Telephone Area	BX001	3.72	40	Minimum, one per 80,000 gsf of medical treatment facility space.
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RETAIL AREAS

Vending Machine Area	BX001	1.86	20	20 nsf per vending machine. Minimum one. One vending machine per 15,000 nsf of freestanding clinic space. One vending machine per 10,000 nsf of hospital space. Note: Vending machines may be consolidated in one area, or may be decentralized for more convenient customer access.
Vending Seating Area	FSCD1	9.29	100	Minimum if provided. Small up to 150,000 outpatient visits. Vending machine may be consolidated in one area, or may be decentralized for more convenient customer access
		23.23	250	Medium: 150,00-300,000 outpatient visits
		46.45	500	Large: over 300,000 outpatient visits
Exchange Retail Store (Gift Shop)	BX000	37.16	400	One per hospital if the Army and Air Force Exchange Service or the Navy Exchange Service agrees to provide. More space can be programmed if agreement is reached with AAFES/NEX.
Food Service Vendor Space (Coffee or Fast Food Shop)	BX001	33.45	360	One per hospital if the Army and Air Force Exchange Service or the Navy Exchange Service agrees to provide. More space can be programmed if agreement is reached with AAFES/NEX.
Banking Facility	BF000	18.58	200	Equip by others - Special study required
ATM Alcove	BF001	3.72	40	One when a contract for this service is projected.
US Post Office	MRPS1	11.15	120	If in the Clinic Concept of Operations.
Blind Vendor Area	BLND1	13.94	150	Special Study required.
Flower Shop	BX001	7.43	80	One per hospital when there is contract for this service projected.
Barber Shop	BX001	11.15	120	Minimum. One barbershop per hospital when a contract for this service is projected. Minimum of 120 nsf for a one chair barber shop, add 60 nsf for each additional chair. Determine the number of chairs based on barber contract.
Beauty Shop	BX001	11.15	120	Minimum. One beauty shop per hospital when

6.1

DoD Space Planning Criteria for Health Facilities

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				a contract for this service is projected. Minimum of 120 nsf for a one beautician. add 60 nsf for each additional beautician. Determine the number of beauticians based on the contract for beauty shop services.
Dry Cleaning Drop Off/Pick Up	BX000	11.15	120	One when a contract for this service is projected.

TOILETS, LOCKERS, COMMUNICATION & JANITORS CLOSETS

Toilet, Multiple – Toilet rooms containing two or more fixtures of the same kind, will have at least one accessible fixture.	TLTF2	18.58	200	Minimum (2 wc, 2 lav, 1 dc), (Female) provide 30 nsf per additional fixture plus an additional 15 nsf for each handicap accessible fixture, plus 10 nsf for additional diaper changing area.
	TLTM2	18.58	200	Minimum, (1 wc, 1 ur, 2 lav, 1 dc), (Male). Use 10 nsf for urinals. Same criteria as TLTF2
Central Locker Room (GP) Changing Area	LR002	13.94	150	Small (<100,000). Includes 20 half-size lockers. One room for males, another for females. See Policy/Formula 6.1.3.
		18.58	200	Medium (between 100,000 and 350,000 annual outpatient visits). Includes 40 half-size lockers. One room for males, another for females. See Policy/Formula 6.1.3.
		23.23	250	Large (>350,000 annual outpatient visits.) Includes 60 half-size lockers. One room for males, another for females. See Policy/Formula 6.1.3.
Central Locker Room (GP) Toilet Area	TLTU1	4.70	50	Small (<100,000) This includes 1 water closet/lavatory. One room for males, another for females. See Policy/Formula 6.1.3.
		10.30	110	Medium (between 100,000 and 350,000 annual outpatient visits.) This includes 3 water closet/lavatories. One room for males, another for females. See Policy/Formula 6.1.3.
		15.90	170	Large (>350,000 annual outpatient visits.) This includes 5 water closet/lavatories. One room for males, another for females. See Policy/Formula 6.1.3.

FUNCTION	Room Code	AUTHORIZED		PLANNING RANGE/COMMENTS
		m ²	nsf	
Central Locker Room (GP) Shower Area	SHWR1	5.60	60	Small (<100,000) This includes 1 shower. One room for males, another for females. See Policy/Formula 6.1.3.

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		11.20	120	Medium (between 100,000 and 350,000 annual outpatient visits.) This includes 3 showers. One room for males, another for females. See Policy/Formula 6.1.3.
		16.80	180	Large (>350,000 annual outpatient visits.) This includes 5 showers. One room for males, another for females. See Policy/Formula 6.1.3.
Communication Room	COMC1	10.22	110	One information system closet per 10,000 gsf. Several departments can share one closet, as long as the area does not exceed 10,000 gsf.
Janitor Closet	JANC1	3.70	40	One janitor closet per 10,000 gsf. Several departments can share one janitor closet, as long as the area does not exceed 10,000 gsf.